



# Sustainability and Intellectual Property in Germany

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## 15.1 Introduction

We are encountering the term ‘sustainability’ increasingly often in today’s age. According to many people, they are striving for a more sustainable lifestyle and sustainable production is increasingly being advertised on consumer goods.

A more climate-friendly way of life is closely related to research and innovation in a wide variety of areas of life which make this lifestyle possible in our modern society. Resources should be used sparingly by perfecting recycling processes. Travel should become more environmentally friendly and thus more sustainable, for example through electric mobility. Energy is to be obtained sustainably. Behind all these developments are concepts and ideas, some of which can be protected by intellectual property rights such as patents, trade secrets or even trademarks. The question therefore arises what role intellectual property rights play in sustainability. Intellectual property rights are generally granted irrespective of the sustainability of a product. They are value neutral. However, this does not mean that they cannot have a positive or possibly also a negative effect.

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## 15.2 Definition of Sustainability

There is no generally accepted definition of the term sustainability.<sup>1</sup> It can be interpreted in socio-political, economic and legal terms. When the term ‘sustainability’ is used colloquially, it is usually understood as an ecological concept in the sense of a resource-conserving and thus environmentally and climate-friendly behaviour.<sup>2</sup> However, to work out the various effects of individual intellectual property rights on ‘sustainability’, this report will be based on a uniform definition.

### 15.2.1 Legal Understanding of the Term

From a legal perspective, a distinction can be made between a narrow and a broad understanding of the concept of sustainability. Narrowly understood, ecological sustainability aims at respecting the carrying capacity of nature in all state decisions directed towards the future.<sup>3</sup> These decisions are intended to create the basis of life for future generations within the framework of resource management. At the same time, ecological sustainability means maintaining or restoring economic performance in the long term.<sup>4</sup>

Social sustainability also means guaranteeing the conditions for sustainable coverage of resource-independent basic human needs through functioning social security systems and services of general interest.<sup>5</sup>

According to the broad understanding of the concept of sustainability, the three-dimensional integrative concept, sustainability aims at a balance of economic development, social security and preservation of natural resources for future generations.<sup>6</sup>

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<sup>1</sup>M. Vogt, Nachhaltigkeit, In: Görres Gesellschaft (ed), Görres-Gesellschaft-Staatslexikon, 8<sup>th</sup> ed, Vol. 4, Herder 2020.

<sup>2</sup>M. Vogt, Nachhaltigkeit, In: Görres Gesellschaft (ed), Görres-Gesellschaft-Staatslexikon, 8<sup>th</sup> ed, Vol. 4, Herder 2020.

<sup>3</sup>W. Kahl, Nachhaltigkeit, In: Görres Gesellschaft (ed), Görres-Gesellschaft-Staatslexikon, 8<sup>th</sup> ed, Vol. 4, Herder 2020; V. Oschmann, In: C. Theobald and J. Kühling (eds), Energierecht, 114th Ed, Vol. 1, C.H. Beck January 2022, EEG § 1, para 22.

<sup>4</sup>W. Kahl, Nachhaltigkeit, In: Görres Gesellschaft (ed), Görres-Gesellschaft-Staatslexikon, 8<sup>th</sup> ed, Vol. 4, Herder 2020; United Nations (ed) (1987), Report of the World Commission on Environment and Development: Our Common Future, Chapter 2, <http://www.un-documents.net/wced-ocf.htm>, accessed 13 July 2022.

<sup>5</sup>W. Kahl, Nachhaltigkeit, In: Görres Gesellschaft (ed), Görres-Gesellschaft-Staatslexikon, 8<sup>th</sup> ed, Vol. 4, Herder 2020; K. Bosselmann, The Principle of Sustainability, 1st ed, Routledge 2008, pp. 826 ff.

<sup>6</sup>W. Kahl, Nachhaltigkeit, In: Görres Gesellschaft (ed), Görres-Gesellschaft-Staatslexikon, 8<sup>th</sup> ed, Vol. 4, Herder 2020.

## 15.2.2 Social-Ethical Understanding of the Term

In the 18th century, the term sustainability was first used primarily as a forestry conservation rule to describe an ethical attitude according to which the power of nature should be unfolded in a future-oriented manner.<sup>7</sup> The intention is to generate only as much yield as is necessary to maintain earning power. Furthermore, from a political perspective, the concept of sustainability in relation to the structure of society describes not only the preservation but also the development of technical and social innovations.<sup>8</sup>

In terms of justice theory, sustainability means the basis for global and intergenerational justice.<sup>9</sup> From this perspective, sustainability thus means creating equal life chances for future generations as well as equal rights for everyone regarding resources.<sup>10</sup>

## 15.2.3 Political Science Understanding of the Term

The political significance of sustainability is primarily reflected in the global model of sustainable development designed by the UN.<sup>11</sup> According to this concept, development is sustainable if it meets the needs of current generations without depriving future generations of opportunities.<sup>12</sup> To achieve intra- and intergenerational justice through universal participation, the preservation of natural systems is essential.<sup>13</sup>

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<sup>7</sup>M. Vogt, *Nachhaltigkeit*, In: Görres Gesellschaft (ed), *Görres-Gesellschaft-Staatslexikon*, 8<sup>th</sup> ed, Vol. 4, Herder 2020.

<sup>8</sup>M. Vogt, *Nachhaltigkeit*, In: Görres Gesellschaft (ed), *Görres-Gesellschaft-Staatslexikon*, 8<sup>th</sup> ed, Vol. 4, Herder 2020.

<sup>9</sup>BVerfGE 157, 30 ("Klimabeschluss des BVerfG") of 24 March 2021; F. Ekardt (2010) *Klimawandel und soziale Gerechtigkeit*, p. 31, available at [https://www.kas.de/c/document\\_library/get\\_file?uuid=5f333536-2589-7f03-c07d-1ceea90afc48&groupId=252038](https://www.kas.de/c/document_library/get_file?uuid=5f333536-2589-7f03-c07d-1ceea90afc48&groupId=252038). Accessed 15 July 2022.

<sup>10</sup>M. Vogt, *Nachhaltigkeit*, In: Görres Gesellschaft (ed), *Görres-Gesellschaft-Staatslexikon*, 8<sup>th</sup> ed, Vol. 4, Herder 2020.

<sup>11</sup>K.-W. Brand, *Nachhaltigkeit*, In: Görres Gesellschaft (ed), *Görres-Gesellschaft-Staatslexikon*, 8<sup>th</sup> ed, Vol. 4, Herder 2020.

<sup>12</sup>UN (ed) (1987), *Our Common Future: The Brundtland Report of the World Commission on Environment and Development*, available at <http://www.un-documents.net/wced-ocf.htm>. Accessed 13 July 2022; W. Schön, "Sustainability" in *Corporate Reporting*, ZfPW 2022, p 207.208.

<sup>13</sup>K.-W. Brand, *Nachhaltigkeit*, In: Görres Gesellschaft (ed), *Görres-Gesellschaft-Staatslexikon*, 8<sup>th</sup> ed, Vol. 4, Herder 2020.

### 15.2.4 Economic Understanding of the Term

From an economic perspective, sustainability is understood as a course of action that does not aim at one-sided and short-term economic advantages and does not place a heavy burden on resources.<sup>14</sup> Furthermore, a distinction between different capital stocks is made: physical capital, human capital and natural capital. These should be used in such way that future and present generations are not restricted.<sup>15</sup> According to the concept of weak sustainability, different forms of capital are infinitely substitutable.<sup>16</sup> This is seen differently in context of the strong sustainability concept, primarily because of the dependence of economic and social systems on natural systems.<sup>17</sup> Based on the premise of strong sustainability, rules for dealing with natural resources have therefore been developed.<sup>18</sup> Particularly, exhaustible resources such as fossil energy sources should only be used if they can be replaced by renewable resources of equal value.

### 15.2.5 Essential Features of ‘Sustainability’

Depending on the definition, sustainability therefore implies not only the protection of the environment, but also the establishment of ecological, economic and social justice. Future generations should continue to receive their natural basis of life.<sup>19</sup> The core of the term, as it is interpreted here, is consequently the resource-conserving handling of the economy and society, which can be achieved by innovation and saving resources.

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<sup>14</sup>B. Hansjürgens, *Nachhaltigkeit*, In: Görres Gesellschaft (ed), *Görres-Gesellschaft-Staatslexikon*, 8<sup>th</sup> ed, Vol. 4, Herder 2020.

<sup>15</sup>W. Schön, “Nachhaltigkeit” in der Unternehmensberichterstattung, *ZfPW* 2022, pp. 207–208.

<sup>16</sup>R. Döring (2004) *Wie stark ist schwache, wie schwach starke Nachhaltigkeit?*, p. 4, available at [https://www.econstor.eu/dspace/bitstream/10419/22095/1/08\\_2004.pdf](https://www.econstor.eu/dspace/bitstream/10419/22095/1/08_2004.pdf). Accessed at 14 July 2022.

<sup>17</sup>B. Hansjürgens, *Nachhaltigkeit*, In: Görres Gesellschaft (ed), *Görres-Gesellschaft-Staatslexikon*, 8<sup>th</sup> ed, Vol. 4, Herder 2020.

<sup>18</sup>Aachener Stiftung Kathy Beys (2015) *Lexikon der Nachhaltigkeit, Starke und schwache Nachhaltigkeit*, available at [https://www.nachhaltigkeit.info/artikel/schwache\\_vs\\_starke\\_nachhaltigkeit\\_1687.htm](https://www.nachhaltigkeit.info/artikel/schwache_vs_starke_nachhaltigkeit_1687.htm). Accessed 23 June 2022.

<sup>19</sup>W. Schön, “Nachhaltigkeit” in der Unternehmensberichterstattung, *ZfPW* 2022, pp. 207–208; similar to the commonly used definition of sustainability by Brundtland Reports of the United Nations: UN General Assembly (1987) *Report of the World Commission on Environment and Development - Our Common Future*, available at <https://digitallibrary.un.org/record/139811>. Accessed 14 July 2022.

## 15.3 Current Status: Intellectual Property Rights and Sustainability

The existence of various intellectual property rights is often justified with the argument that they are a driving force for innovation.<sup>20</sup> For this reason, the following section will examine the extent to which intellectual property rights play a role in achieving the goal of a sustainable world.

### 15.3.1 Patent Law

Under Section 1 Patent Act (PatG),<sup>21</sup> patents are granted to protect new inventions. This may include both devices and processes (Sec. 9 PatG). The aim of patent law is to strike a balance between the inventor's interest in using his invention exclusively for as long as possible and the general public's interest in further development of research.<sup>22</sup> By granting a patent, the inventor receives the possibility to exclude unauthorised third parties from using or marketing the invention for a certain period (Sec. 9 PatG). Thus, within the limits of the permitted acts under Sec. 11 PatG, the patent proprietor is free to decide which person is permitted to use the technology. As a result, the patent proprietor has a position that can be described as a monopoly and is only obliged to grant a compulsory licence to a third party in the cases of Sec. 24 (1) PatG respectively Sec. 102 TFEU.<sup>23</sup> At the same time, every patent proprietor is required to disclose his invention in such way that a person skilled in the field could carry it out (Sec. 34 (4) PatG). This is intended to compensate for the monopolistic protection and to provide specialist groups with the opportunity to take up the invention and develop it further, leading to continuous innovation competition.<sup>24</sup> Generally, patent protection is possible for 20 years (Sec. 16 PatG).

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<sup>20</sup>C. Kilchermann (2005) Die Wirkung des Patentschutzes auf Innovation und Wachstum, p. 2, available at [https://www.unibas.ch/fileadmin/user\\_upload/wwz/99\\_WWZ\\_Forum/Forschungsberichte/15\\_05.pdf](https://www.unibas.ch/fileadmin/user_upload/wwz/99_WWZ_Forum/Forschungsberichte/15_05.pdf). Accessed 7 July 2022; H. Zech (2021) Brauchen wir ein Patentrecht? available at <https://www.ifo.de/publikationen/2021/aufsatz-zeitschrift/patentschutz-impulsgeber-fuer-innovationen-oder-behinderung>. Accessed at 7 July 2022; World Intellectual Property Organization (2022) Innovation and Intellectual Property, available at [https://www.wipo.int/ip-outreach/en/ipday/2017/innovation\\_and\\_intellectual\\_property.html](https://www.wipo.int/ip-outreach/en/ipday/2017/innovation_and_intellectual_property.html). Accessed 7 July 2022; critical: F. Machlup, Die wirtschaftlichen Grundlagen des Patentrechts - 3. Teil, GRUR 1961, p. 524; W. Landes and R. Posner, The Economic Structure of Intellectual Property Law, 1<sup>st</sup> ed, Harvard University Press 2003, pp. 326–327; R. Mazzoleni and R. Nelson, The benefits and costs of strong patent protection: a contribution to the current debate, Vol. 27, Elsevier 1998, pp. 273–284.

<sup>21</sup>Patent Act, published on 16 December 1980 (Bundesgesetzblatt 1981 p. 1), last amended on 30 August 2021 (Bundesgesetzblatt I p. 4074).

<sup>22</sup>R. Rogge and K.-J. Melullis, Einleitung Patentgesetz, In: Benkard (ed), Patentgesetz, 11<sup>th</sup> ed, C.H. Beck 2015, para 1.

<sup>23</sup>R. Rogge, In: Benkard (ed), Patentgesetz, 11<sup>th</sup> ed, C.H. Beck 2015, § 24 PatG, paras 3, 18.

<sup>24</sup>A. Schäfers, In: Benkard (ed), Patentgesetz, 11<sup>th</sup> ed, C.H. Beck 2015, § 34 PatG, paras 14a–34.

Goods that can generally be protected by patent law are the so-called ‘green’ technologies. Those are defined as technologies that contribute to environmental protection by reducing the impact on the environment. They achieve this by using resources more sustainably, recycling more waste and disposing the remaining waste in an environmentally friendly manner. The comparative benchmark for this is the technology that would be used instead of the ‘green’ technology. However, the extent to which a technology is ultimately ‘green’ can usually only be assessed in retrospect. For example, the computer was expected to eliminate use of paper almost completely, which has not yet come true.<sup>25</sup>

### 15.3.1.1 Possible Positive Effect of Patent Protection

Patents can now create an incentive to invest in sustainable technology and to disseminate it profitably through the exclusive right. However, there is no ‘green’ patent law in this sense, as the granting of patents is neutral in terms of value,<sup>26</sup> meaning that not only sustainable, but all inventions can be protected.

Nevertheless, at least ‘green’ technologies can *also* be protected by patents and then be marketed through sales and licensing agreements. The profits generated by this can in turn be reinvested in new innovations.<sup>27</sup> In addition, licensing can lead to cooperation with other companies that can use the technology to create further new products. Furthermore, licensing can also help to bridge social barriers, e.g. by issuing targeted licences to companies that produce in poorer regions, thus creating new jobs there.<sup>28</sup> Especially with regard to ‘green’ technology, licensing offers an opportunity to promote its dissemination. Start-ups are considered to be very innovative in the field of sustainable technology, but they often lack the financial resources and capacities to make the technologies they develop a success.<sup>29</sup> Therefore, cooperation with established larger companies by way of licensing is a good way to promote the dissemination of the technology and achieve greater sales.<sup>30</sup>

<sup>25</sup>F. Klein (2020) GREEN IP - A look at how sustainability influences IP and how IP can help in achieving sustainability, available at <https://www.ashurst.com/en/news-and-insights/legal-updates/a-look-at-how-sustainability-influences-ip-and-how-ip-can-help-in-achieving-sustainability/>. Accessed 12 July 2022.

<sup>26</sup>A. Krefft, Patente auf human-genomische Erfindungen, Carl Heymanns 2003, p. 96; I. Schneider, In: Metzger (ed) Methodenfragen des Patentrechts, Mohr Siebeck 2018, pp. 6–7.

<sup>27</sup>C.-W. Davies, T. Nener and N. Pereira (2021) Green IP: the role of intellectual property in sustainability, available at <https://www.financierworldwide.com/green-ip-the-role-of-intellectual-property-in-sustainability>. Accessed 12 July 2022.

<sup>28</sup>International Science Council (2022) Three things to know about how Intellectual Property can contribute to sustainability transitions, available at <https://council.science/current/blog/how-intellectual-property-sustainability-transitions/>. Accessed 5 July 2022.

<sup>29</sup>International Science Council (2022) Three things to know about how Intellectual Property can contribute to sustainability transitions, available at <https://council.science/current/blog/how-intellectual-property-sustainability-transitions/>. Accessed 5 July 2022.

<sup>30</sup>International Science Council (2022) Three things to know about how Intellectual Property can contribute to sustainability transitions, available at <https://council.science/current/blog/how-intellectual-property-sustainability-transitions/>. Accessed 5 July 2022.

Due to the increased risk of extreme weather conditions or natural disasters caused by climate change, the question of how we can live more sustainably has become increasingly important in recent years. With the Green Deal,<sup>31</sup> the EU has agreed to become climate neutral by 2050. As a result, the demand for 'green' technology is increasing. The market is following suit by investing more in the research and development of sustainable technologies to create the basis for such a development. Thus, patents currently benefit the research and development of 'green' technology in particular.<sup>32</sup>

### 15.3.1.2 Possible Negative Effects of Patent Protection and Alternatives

The possible incentive effects, which have a positive impact on the inventor, can also have negative effects at the same time.

First, filing and maintaining a patent can be relatively costly, for which some companies may lack the financial and human resources. The application fee is at least EUR 40 for an electronic application and EUR 60 for a paper application. The costs for the subsequent examination procedure amount to at least 350 EUR.<sup>33</sup> These costs alone will still be bearable for most companies. However, the maintenance of the patent becomes more expensive, increasing from year to year. For example, an annual fee of EUR 70 is payable from the third year onwards, rising to EUR 2030 by the twentieth year of the patent.<sup>34</sup> If a declaration of willingness to grant a licence is submitted under Sec. 23 (1) PatG, the annual amount is reduced by 50%, but still leads to considerable costs, although it should be noted that such declaration will not be desired by every patent proprietor. In addition to these costs, there are costs for the patent attorney commissioned to file the patent application, which can easily range between EUR 3000 and EUR 6000.<sup>35</sup> This can be a problem for small or medium-sized enterprises (SMEs) in particular. Although there are funding programmes, such as that of the Federal Ministry for Economic Affairs and Climate Action (BMWK),

<sup>31</sup> See: [https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal\\_en](https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en). Accessed 15 July 2022.

<sup>32</sup> F. Klein (2020) GREEN IP - A look at how sustainability influences IP and how IP can help in achieving sustainability, available at <https://www.ashurst.com/en/news-and-insights/legal-updates/a-look-at-how-sustainability-influences-ip-and-how-ip-can-help-in-achieving-sustainability/>. Accessed 12 July 2022; C.-W. Davies, T. Nener and N. Pereira (2021) Green IP: the role of intellectual property in sustainability, available at <https://www.financierworldwide.com/green-ip-the-role-of-intellectual-property-in-sustainability>. Accessed 12 July 2022; N. Yu, Assessment of the Mechanism for Mining Technology Transfer in the Area: Loopholes in ISA Practice and Its Mining Code, In: Z. Koyuan and C. Yen-Chiang (ed), Preserving Community Interests in Ocean Governance towards Sustainability, MDPI 2022, p. 159.

<sup>33</sup> Annex to Sec. 2 (1) PatKostG (Schedule of fees), Patent Costs Law, publication of 13 December 2001 (Bundesgesetzblatt p. 3656), last amended on 13 December 2001 (Bundesgesetzblatt I p. 4074).

<sup>34</sup> Deutsches Patent- und Markenamt (2022) Kostenmerkblatt, available at <https://www.dpma.de/docs/formulare/allgemein/a9510.pdf>. Accessed 12 July 2022.

<sup>35</sup> Freie Universität Berlin, available at <https://www.fu-berlin.de/forschung/service/patente-und-lizenzen/faq/kosten.html>. Accessed 12 July 2022.

which aims to promote the transfer of technology and knowledge through patents in small and medium-sized enterprises with the WIPANO funding programme,<sup>36</sup> it cannot be assumed across the board that every SME will receive such funding. Larger companies usually have established structures and large amounts of human and financial resources. This is not necessarily the case with SMEs, which can lead to a considerable competitive disadvantage.<sup>37</sup> Especially in an area where many companies are looking for their spot and competition is fierce, the basic disadvantage caused by patent law for SMEs compared to larger companies can be multiplied. Negative aspects can also be associated with monopolistic protection for a limited period. Thus, innovative products and processes are protected for a few years, but at the same time this can also prevent faster global dissemination of such innovations.<sup>38</sup> While patent law creates positive incentives for innovation in the development of sustainable technologies, it also hinders their diffusion, especially to the global South.<sup>39</sup> Even the use of compulsory licensing is not able to remedy this situation, as possible protector states in Africa or Asia do not have the necessary means to produce climate-friendly technologies.<sup>40</sup> As a consequence, the technologies would first require manufacturing in another state to be exported to the protected state.<sup>41</sup> However, such a procedure is not covered by a compulsory licence (Art. 31 lit. f TRIPS, Section 24 PatG).<sup>42</sup>

This has serious consequences, as innovations usually build on each other and only show significant differences in terms of sustainability when they interact.<sup>43</sup> The pace of sustainable innovation can thus be slowed down as a result of the barriers created.<sup>44</sup> This phenomenon can be mitigated using voluntary licences, striking a

<sup>36</sup>Bundesministerium für Justiz und Verbraucherschutz (2020) Richtlinie zur Förderung des Technologie- und Wissenstransfers durch Patente, Normung und Standardisierung, available at <https://www.mw-patent.de/media/files/WIPANO-F%C3%B6rderung-17.01.2020.pdf>. Accessed 12 July 2022.

<sup>37</sup>Study of the Fraunhofer IAO Stuttgart, “Professionelles Patentmanagement für kleine und mittlere Unternehmen in Baden-Württemberg”, available at [https://www.dpma.de/docs/service/kmu/fraunhoferinstitut\\_studie-patentmanagement-kmu.pdf](https://www.dpma.de/docs/service/kmu/fraunhoferinstitut_studie-patentmanagement-kmu.pdf). Accessed 14 July 2022, pp. 10 ff.

<sup>38</sup>R. Ballardini, J. Kaisto and J. Similä, Developing novel property concepts in private law to foster the circular economy, *Journal of Cleaner Production* 2021, pp. 279 ff.; E. Eppinger, A. Jain, P. Vimalnath, A. Gurtoo, F. Tietze and R. Hernandez, Sustainability transitions in manufacturing: the role of intellectual property, *COSUST* 2021(49), pp. 118–126.

<sup>39</sup>C. Heinze, Patentrecht und Klimawandel – eine Skizze, *GRUR Newsletter* 2020(1), p. 6.

<sup>40</sup>C. Heinze, Patentrecht und Klimawandel – eine Skizze, *GRUR Newsletter* 2020(1), p. 7.

<sup>41</sup>C. Heinze, Patentrecht und Klimawandel – eine Skizze, *GRUR Newsletter* 2020(1), p. 7.

<sup>42</sup>Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), Notice of 15 April 1994 (Bundesgesetzblatt II pp. 1438, 1730), last amended on 6 December 2005 (OJ 2007 L 311 p. 37); C. Heinze, Patentrecht und Klimawandel – eine Skizze, *GRUR Newsletter* 2020(1), p. 7.

<sup>43</sup>Cf. E. Eppinger, A. Jain, P. Vimalnath, A. Gurtoo, F. Tietze and R. Hernandez, Sustainability transitions in manufacturing: the role of intellectual property, *COSUST* 2021(49), pp. 118–126.

<sup>44</sup>E. Eppinger, A. Jain, P. Vimalnath, A. Gurtoo, F. Tietze and R. Hernandez, Sustainability transitions in manufacturing: the role of intellectual property, *COSUST* 2021(49), pp. 118–126.



good balance between the interests of the inventor (recouping investments) and society (driving research).<sup>45</sup>

Particular attention should be paid to ensuring that the acquisition of licences is realistically accessible to all countries. Currently, developing and emerging countries in particular are mainly responsible for rising energy consumption.<sup>46</sup> The aim of technology transfer should therefore be to introduce sustainable innovations in these regions to mitigate the consequences of climate change and counteract existing impacts.<sup>47</sup> Currently, German exports of environmental technologies are still strongly focused on other OECD countries.<sup>48</sup> However, the research report 'Environmental innovation made in Germany: What contribution can they make to achieving the SDGs in emerging and developing countries?'<sup>49</sup> comes to the conclusion that Germany could make an important contribution to achieving the SDGs in emerging and developing countries, especially in the technology fields of mobility, energy generation and efficiency, and (partly) recycling after comparing the German technology profile with the technological needs of emerging and developing countries. For example, Germany has a high level of innovation in the areas of environmentally friendly drives, wind power, combined heat and power (CHP) or heating systems; technologies that are considered priorities by developing and emerging countries.<sup>50</sup> In addition, however, for effective technology transfer it must also be taken into account that existing technologies may have to be adapted to regional conditions.<sup>51</sup> This is countered by the fact that most developing countries

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<sup>45</sup>E. Eppinger, A. Jain, P. Vimalnath, A. Gurtoo, F. Tietze and R. Hernandez, Sustainability transitions in manufacturing: the role of intellectual property, *COSUST* 2021(49), pp. 118–126.

<sup>46</sup>W. Hoffmann, J. Lewerenz and T. Pellkoffer, Spannungsfeld von Technologietransfer und Schutz geistigen Eigentums, In: *Forschungsverbund Erneuerbare Energien -FVEE-* (ed), Themen 2009. *Forschen für globale Märkte erneuerbarer Energien*, Selbstverlag 2009, p. 127.

<sup>47</sup>W. Hoffmann, J. Lewerenz and T. Pellkoffer, Spannungsfeld von Technologietransfer und Schutz geistigen Eigentums, In: *Forschungsverbund Erneuerbare Energien -FVEE-* (ed), Themen 2009. *Forschen für globale Märkte erneuerbarer Energien*, Selbstverlag 2009, p. 128.

<sup>48</sup>C. Gandenberger and F. Marscheider-Weidemann, *Umweltinnovationen made in Germany: Welchen Beitrag können sie zum Erreichen der SDG in Schwellen- und Entwicklungsländern leisten? Ein Beitrag zur Weiterentwicklung der deutschen Umweltinnovationspolitik*, Umweltbundesamt 2021, p. 34.

<sup>49</sup>C. Gandenberger and F. Marscheider-Weidemann, *Umweltinnovationen made in Germany: Welchen Beitrag können sie zum Erreichen der SDG in Schwellen- und Entwicklungsländern leisten? Ein Beitrag zur Weiterentwicklung der deutschen Umweltinnovationspolitik*, Umweltbundesamt 2021.

<sup>50</sup>C. Gandenberger and F. Marscheider-Weidemann, *Umweltinnovationen made in Germany: Welchen Beitrag können sie zum Erreichen der SDG in Schwellen- und Entwicklungsländern leisten? Ein Beitrag zur Weiterentwicklung der deutschen Umweltinnovationspolitik*, Umweltbundesamt 2021, pp. 16–17.

<sup>51</sup>W. Hoffmann, J. Lewerenz and T. Pellkoffer, Spannungsfeld von Technologietransfer und Schutz geistigen Eigentums, In: *Forschungsverbund Erneuerbare Energien -FVEE-* (ed), Themen 2009. *Forschen für globale Märkte erneuerbarer Energien*, Selbstverlag 2009, p. 128; C. Gandenberger and F. Marscheider-Weidemann, *Umweltinnovationen made in Germany: Welchen Beitrag können*

lack the structural, material and financial resources for adaptation.<sup>52</sup> One approach to still fully exploit the potential of markets in emerging and developing countries is the development of ‘frugal innovations’ (i.e. affordable robust and functional innovations).<sup>53</sup> The aim of this is not to omit individual cost-intensive functions or features of the existing product, but on the contrary to develop radically new approaches to meet the requirements and conditions of the target market from the outset. In Germany, the idea of ‘frugal design’ has not yet arrived in the existing innovation processes or has not been strongly developed. In addition, small and medium-sized enterprises sometimes lack the capacities for research and development in this area.<sup>54</sup> This makes them all more dependent on the willingness of larger companies to license patented technologies under the fairest possible conditions.

Patents can also restrict third parties who do not have the corresponding licences from sustainably reprocessing (recycling).<sup>55</sup> Without a licence, they are basically barred from using and thus also from further developing and reprocessing. Nevertheless, the current legal situation also offers business models such as *refurbed*,<sup>56</sup> *Swappie*<sup>57</sup> or *BackMarket*<sup>58</sup> the opportunity to become active in the field of recycling and reselling patent-protected objects. Thus, the exhaustion principle covers both the maintenance without a licence and the restoration of the usability of the object in question as intended.<sup>59</sup> The limit of the exhaustion doctrine is only reached if the repair and reconditioning is equivalent to the production of a new object, for example when the destroyed smartphone is reassembled. Apart from this, these

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sie zum Erreichen der SDG in Schwellen- und Entwicklungsländern leisten? Ein Beitrag zur Weiterentwicklung der deutschen Umweltinnovationspolitik, Umweltbundesamt 2021, p. 14.

<sup>52</sup>W. Hoffmann, J. Lewerenz and T. Pellkoffer, Spannungsfeld von Technologietransfer und Schutz geistigen Eigentums, In: Forschungsverbund Erneuerbare Energien -FVEE- (ed), Themen 2009. Forschungen für globale Märkte erneuerbarer Energien, Selbstverlag 2009, p. 129.

<sup>53</sup>C. Gandenberger and F. Marscheider-Weidemann, Umweltinnovationen made in Germany: Welchen Beitrag können sie zum Erreichen der SDG in Schwellen- und Entwicklungsländern leisten? Ein Beitrag zur Weiterentwicklung der deutschen Umweltinnovationspolitik, Umweltbundesamt 2021, pp. 24–25.

<sup>54</sup>C. Gandenberger and F. Marscheider-Weidemann, Umweltinnovationen made in Germany: Welchen Beitrag können sie zum Erreichen der SDG in Schwellen- und Entwicklungsländern leisten? Ein Beitrag zur Weiterentwicklung der deutschen Umweltinnovationspolitik, Umweltbundesamt 2021, p 26.

<sup>55</sup>E. Eppinger, A. Jain, P. Vimalnath, A. Gurtoo, F. Tietze and R. Hernandez, Sustainability transitions in manufacturing: the role of intellectual property, COSUST 2021(49), p. 122.

<sup>56</sup><https://www.refurbed.de/unternehmen/>. Accessed 14 July 2022.

<sup>57</sup><https://swappie.com/de/so-funktioniert-unser-service/>. Accessed 14 July 2022.

<sup>58</sup><https://www.backmarket.de/de-de//smartphones/6c290010-c0c2-47a4-b68a-ac2ec2b64dca>. Accessed 14 July 2022.

<sup>59</sup>K. Haft, G. Baumgärtel, J. Dombrowski, B. Grzimek, B. Joachim and M. Loschelder, Die Erschöpfung von Rechten des Geistigen Eigentums in Fällen des Recyclings oder der Reparatur von Waren (Q 205), GRUR Int. 2008(11), p. 947.

sustainable business models are already possible without a licence.<sup>60</sup> This is a step in the right direction, as it at least prevents patent law from standing in the way of sustainable use of existing products. However, it would be desirable for patent law to not only not inhibit ‘green’ innovations, but to create incentives to drive them forward.

### 15.3.1.3 Efforts of the DPMA

In all this, the German Patent and Trade Mark Office (DPMA) was early aware of the importance of patent protection for the development of ‘green’ technologies.<sup>61</sup> Thus, as early as 2010, the President of the German Patent and Trade Mark Office spoke of the need to strike a balance between patent protection and the worldwide dissemination of ‘green’ technologies.<sup>62</sup> Although patent law serves to refinance the investments made in the technology, these technologies are mainly developed in industrialised countries.<sup>63</sup> Therefore, in addition to the indispensable protection of the high financial expenditure through patents, there must also be a worldwide dissemination of these technologies.<sup>64</sup>

In addition, the DPMA referred to the development of the number of patent applications in the field of renewable energies and its importance for combating climate change in various press releases.<sup>65</sup> The annual report of the DPMA also evaluated the patent applications in the field of climate-friendly technologies published by the DPMA and the EPO and classified their numerical development.<sup>66</sup>

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<sup>60</sup>K. Haft, G. Baumgärtel, J. Dombrowski, B. Grzimek, B. Joachim and M. Loschelder, Die Erschöpfung von Rechten des Geistigen Eigentums in Fällen des Recyclings oder der Reparatur von Waren (Q 205), GRUR Int. 2008(11), p. 948.

<sup>61</sup>Press release DPMA, 22 July 2010 - Podiumsdiskussion über Umwelttechnologien im Deutschen Patent- und Markenamt, available at [https://www.dpma.de/service/presse/pressemitteilungen/archiv/2010/20100722\\_1.html](https://www.dpma.de/service/presse/pressemitteilungen/archiv/2010/20100722_1.html). Accessed 14 July 2022.

<sup>62</sup>Press release DPMA, 22 July 2010 - Podiumsdiskussion über Umwelttechnologien im Deutschen Patent- und Markenamt, available at [https://www.dpma.de/service/presse/pressemitteilungen/archiv/2010/20100722\\_1.html](https://www.dpma.de/service/presse/pressemitteilungen/archiv/2010/20100722_1.html). Accessed 14 July 2022.

<sup>63</sup>Press release DPMA, 22 July 2010 - Podiumsdiskussion über Umwelttechnologien im Deutschen Patent- und Markenamt, available at [https://www.dpma.de/service/presse/pressemitteilungen/archiv/2010/20100722\\_1.html](https://www.dpma.de/service/presse/pressemitteilungen/archiv/2010/20100722_1.html). Accessed 14 July 2022.

<sup>64</sup>Press release DPMA, 22 July 2010 - Podiumsdiskussion über Umwelttechnologien im Deutschen Patent- und Markenamt, available at [https://www.dpma.de/service/presse/pressemitteilungen/archiv/2010/20100722\\_1.html](https://www.dpma.de/service/presse/pressemitteilungen/archiv/2010/20100722_1.html). Accessed 14 July 2022.

<sup>65</sup>Press release DPMA, 29 March 2022 - Deutschland führend bei klimafreundlichen Innovationen, available at <https://www.dpma.de/service/presse/pressemitteilungen/29032022/index.html>. Accessed 13 June 2022; press release DPMA 24 April 2020 – Erfindungen für eine grüne Zukunft, available at <https://www.dpma.de/service/presse/pressemitteilungen/20200424.html>. Accessed 13 June 2022.

<sup>66</sup>DPMA - Annual Report 2021, available at [https://www.dpma.de/digitaler\\_jahresbericht/2021/jb21\\_de/patente.html](https://www.dpma.de/digitaler_jahresbericht/2021/jb21_de/patente.html). Accessed 13 June 2022.

#### 15.3.1.4 Interim Result

When it comes to the protection of ‘green’ technology, a conflict that patent law has been fighting ever since the beginning becomes relevant once again: It is about the balance of interests between inventor and society. While the inventor strives to amortise his development costs and usually to make a profit, the public wants access to innovations at low cost. This is particularly relevant in the case of ‘green’ technology, as man-made climate change is increasing the time pressure regarding climate-friendly technologies.

To address the conflict, the use of licensing can help, as the following example illustrates: The Coca-Cola company has licensed a patent for a plant bottle technology to selected companies that do not compete with Coca-Cola (e.g. Heinz tomato ketchup).<sup>67</sup> This led to a significant step towards sustainability, as such bottles feature a significantly lower carbon footprint than other bottles.<sup>68</sup> Ten years later, the patent was also made available to Coca-Cola’s competitors.<sup>69</sup> However, the scenario presented only works if patent holders are willing to take such actions.

Consequently, the question that arises from all these considerations and will be addressed later within this contribution is: How can patent law provide further incentives to develop and share ‘green’ technologies without slowing down innovation in this field?

### 15.3.2 Trade Secrets Law

Trade secrets are company-related information that is not generally known and therefore has an economic value, that is protected by appropriate confidentiality measures and where there is a legitimate interest in keeping it secret (Sec. 2 No. 1 GeschGehG).<sup>70</sup> The protection of trade secrets is a less reliable way to protect ‘green’ technologies, as there is no registration procedure here.<sup>71</sup> The owner of the trade secret must have taken reasonable protective measures to keep the information

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<sup>67</sup>Coca Cola Europe, WHY WE’RE SHARING OUR PLANTBOTTLE TECHNOLOGY WITH THE WORLD, available at <https://www.coca-cola.eu/news/supporting-environment/why-were-sharing-our-plantbottle-technology-with-the-world>. Accessed 13 July 2022.

<sup>68</sup>Coca Cola Europe, WHY WE’RE SHARING OUR PLANTBOTTLE TECHNOLOGY WITH THE WORLD, available at <https://www.coca-cola.eu/news/supporting-environment/why-were-sharing-our-plantbottle-technology-with-the-world>. Accessed 13 July 2022.

<sup>69</sup>Coca Cola Europe, WHY WE’RE SHARING OUR PLANTBOTTLE TECHNOLOGY WITH THE WORLD, available at <https://www.coca-cola.eu/news/supporting-environment/why-were-sharing-our-plantbottle-technology-with-the-world>. Accessed 13 July 2022.

<sup>70</sup>Trade Secret Directive, (Bundesgesetzblatt 2019 I p. 466).

<sup>71</sup>F. Klein, GREEN IP - A look at how sustainability influences IP and how IP can help in achieving sustainability, available at <https://www.ashurst.com/en/news-and-insights/legal-updates/a-look-at-how-sustainability-influences-ip-and-how-ip-can-help-in-achieving-sustainability/>. Accessed 13 July 2022.

secret (Sec. 2 No. 1, lit. b GeschGehG).<sup>72</sup> The concrete meaning of reasonable protective measures has been subject of much debate, especially since the Trade Secret Protection Act came into force.<sup>73</sup> Furthermore, protection is only granted against the unlawful acquisition, use or disclosure of the information, but not for its substance (cf. Sec. 4 GeschGehG).<sup>74</sup> If a person obtains the protected information without using illegal means, he or she may use the information.<sup>75</sup> Thus, the derivation of trade secrets from products put on the market ('reverse engineering') has also been liberalised considerably (Section 3 (2) No. 2 GeschGehG).<sup>76</sup> Compared to patent protection, the protection of trade secrets is therefore not as comprehensive and, due to the lack of registration (argument ex Sec. 4 No. 1 MarkenG,<sup>77</sup> Sec. 34 (1) PatentG) and the associated examination, more difficult to enforce and associated with greater legal uncertainty.<sup>78</sup> Nevertheless, a trade secret can be a useful complementary protection measure, especially for certain information that does not have to be disclosed in the patent application and therefore does not enjoy patent protection.<sup>79</sup>

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<sup>72</sup>F. Klein, GREEN IP - A look at how sustainability influences IP and how IP can help in achieving sustainability, available at <https://www.ashurst.com/en/news-and-insights/legal-updates/a-look-at-how-sustainability-influences-ip-and-how-ip-can-help-in-achieving-sustainability/>. Accessed 13 July 2022.

<sup>73</sup>A. Ohly, Das neue Geschäftsgeheimnisgesetz im Überblick, GRUR 2019(5), pp. 441–443; T. Hohendorf, Know-How Schutz und Geistiges Eigentum, 1st ed, Mohr Siebeck 2020 p. 168.

<sup>74</sup>F. Klein, GREEN IP - A look at how sustainability influences IP and how IP can help in achieving sustainability, available at <https://www.ashurst.com/en/news-and-insights/legal-updates/a-look-at-how-sustainability-influences-ip-and-how-ip-can-help-in-achieving-sustainability/>. Accessed 13 July 2022.

<sup>75</sup>Recital 16, Directive 2016/943 of the European Parliament and of the Council; R. G. Bone, A New Look at Trade Secret Law: Doctrine in Search of Justification, California Law Review 1998(86), pp. 241–244; F. Klein, GREEN IP - A look at how sustainability influences IP and how IP can help in achieving sustainability, available at <https://www.ashurst.com/en/news-and-insights/legal-updates/a-look-at-how-sustainability-influences-ip-and-how-ip-can-help-in-achieving-sustainability/>. Accessed 13 July 2022.

<sup>76</sup>F. Klein, GREEN IP - A look at how sustainability influences IP and how IP can help in achieving sustainability, available at <https://www.ashurst.com/en/news-and-insights/legal-updates/a-look-at-how-sustainability-influences-ip-and-how-ip-can-help-in-achieving-sustainability/>. Accessed 13 July 2022.

<sup>77</sup>Act on the Protection of Trade Marks and other Signs, Bundesgesetzblatt 1994 I p. 3082, last amended on 10 August 2021 (Bundesgesetzblatt I p. 3490).

<sup>78</sup>F. Klein, GREEN IP - A look at how sustainability influences IP and how IP can help in achieving sustainability, available at <https://www.ashurst.com/en/news-and-insights/legal-updates/a-look-at-how-sustainability-influences-ip-and-how-ip-can-help-in-achieving-sustainability/>. Accessed 13 July 2022.

<sup>79</sup>F. Klein, GREEN IP - A look at how sustainability influences IP and how IP can help in achieving sustainability, available at <https://www.ashurst.com/en/news-and-insights/legal-updates/a-look-at-how-sustainability-influences-ip-and-how-ip-can-help-in-achieving-sustainability/>. Accessed 13 July 2022.

### 15.3.2.1 Possible Advantages and Disadvantages of Trade Secrets Protection

Trade secrets can, just like patents, also promote sustainability by creating incentives for innovation. In this context, trade secrets complement patents and act with them as complementary counterparts.<sup>80</sup> At the same time, trade secrets can also be a cheaper alternative to patents, with similar effects as innovation drivers.<sup>81</sup> This is promoted by the fact that the protection of trade secrets aims to promote the exchange of knowledge by protecting it.<sup>82</sup> In doing so, the law on the protection of secrets facilitates the exchange of knowledge, for example by eliminating the ‘information paradox’.<sup>83</sup> This results from the fact that contracting parties will only be willing to pay money for knowledge if they also know it as a result of an exchange.<sup>84</sup> Companies that deal with sustainable technologies are more likely to enter into research cooperations if the protection afforded by the GeschGehG provides a protection concept that goes beyond contractual confidentiality agreements. This effect can therefore benefit ‘green’ technologies but is not specifically limited to this area. Therefore, this should rather be seen as a general effect of the law on the protection of secrets.

Like patents, trade secrets can also hinder the rapid dissemination of sustainable technologies since unlike patents, there is no disclosure within the meaning of Sec. 34 PatG, making further development even more difficult.<sup>85</sup> In the area of manufacturing technologies, trade secrets also frequently prevent the disclosure of data that is required for a comparison of the life cycle assessments of the various manufacturing technologies.<sup>86</sup> An example of this is steel production. Each company uses its own recipe, which also depends on how much energy is used in the production process. For this reason, the energy input is protected as trade secret and is not disclosed in the LCA. As a result, the comparability of the life cycle assessments of steel manufacturers is limited, which can inhibit the development of sustainable energies.

<sup>80</sup> A. Ohly, *Der Geheimnisschutz im deutschen Recht: heutiger Stand und Perspektiven*, GRUR 2014(1), pp. 1–3.

<sup>81</sup> C. Ann, *Know-how – Stiefkind des Geistigen Eigentums?*, GRUR 2007(1), pp. 39–40.

<sup>82</sup> Recital 3, Directive 2016/943 of the European Parliament and of the Council.

<sup>83</sup> K. J. Arrow, *Economic Welfare and the Allocation of Resources for Invention*, National Bureau of Economic Research, *The Rate and Direction of Inventive Activity: Economic and Social Factors*, Princeton Legacy Library 1962, p. 615; A. Ohly, *Der Geheimnisschutz im deutschen Recht: heutiger Stand und Perspektiven*, GRUR 2014(1), p. 3.

<sup>84</sup> K. J. Arrow, *Economic Welfare and the Allocation of Resources for Invention*, National Bureau of Economic Research, *The Rate and Direction of Inventive Activity: Economic and Social Factors*, Princeton Legacy Library 1962, p. 615; A. Ohly, *Der Geheimnisschutz im deutschen Recht: heutiger Stand und Perspektiven*, GRUR 2014(1), p. 3.

<sup>85</sup> S. Sandeen and D. Levine. In: Sarnoff (ed.), *Research Handbook on Intellectual Property and Climate Change*, Edward Elgar Publishing 2018, p. 355.

<sup>86</sup> E. Eppinger, A. Jain, P. Vimalnath, A. Gurtoo, F. Tietze and R. Hernandez, *Sustainability transitions in manufacturing: the role of intellectual property*, COSUST 2021(49), p. 118.

Trade secret protection can inhibit the dissemination of sustainable technologies to the extent that data is subject to secrecy protection. Almost any data, if it is subject of appropriate secrecy measures, can be protected by secrecy and thus be withheld from the public. The fact that it is irrelevant whether the data—e.g. machine-generated data from industry and science<sup>87</sup>—can already be used and exploited in practice appears to be problematic. Information for which there is currently no field of use or application can also be subject to secrecy protection.<sup>88</sup> Even purely electronic retrievability is sufficient for this.<sup>89</sup> Embodiment in physical form is not required. In this way, the protection of secrets opens the possibility for companies to exclude the public from the use of data that would be significant for the development of more sustainable technologies. Furthermore, companies are currently not forced to share ‘green’ information that could solve social and environmental problems. Rather, they are free to keep the information completely hidden from the public.<sup>90</sup>

### 15.3.2.2 Interim Result

Trade secrets face a similar dilemma to patents: on the one hand, they can provide an incentive for the development and discovery of information worthy of secrecy so that it can then be used in the best possible way. They can create cooperation networks between smaller and larger companies that promote innovation.<sup>91</sup> On the other hand, they are also attributed with innovation-inhibiting effects, especially in the case of new developments that rely on the interaction of several inventions/discoveries,<sup>92</sup> which also contributes to making progress towards a resource-saving, sustainable ‘circular economy’ more difficult.<sup>93</sup>

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<sup>87</sup>S. Hessel and L. Leffer, *Rechtlicher Schutz maschinengenerierter Daten*, MMR 2020(10), p. 649.

<sup>88</sup>C. Alexander, In: Köhler, Bornkamm and Feddersen, *Gesetz gegen den unlauteren Wettbewerb*, 40th edition 2022, § 2 GeschGehG, para 28.

<sup>89</sup>C. Alexander In: Köhler, Bornkamm and Feddersen, *Gesetz gegen den unlauteren Wettbewerb*, 40th edition 2022, § 2 GeschGehG, para 25a.

<sup>90</sup>S. Sandeen and D. Levine. In: Sarnoff (ed.), *Research Handbook on Intellectual Property and Climate Change*, Edward Elgar Publishing 2018, p. 353.

<sup>91</sup>International Science Council, *Three things to know about how Intellectual Property can contribute to sustainability transitions* (2022), available at <https://council.science/current/blog/how-intellectual-property-sustainability-transitions/>. Accessed 13 July 2022; Directive 2016/943 of the European Parliament and of the Council, recital 1 and 2.

<sup>92</sup>E. Eppinger, A. Jain, P. Vimalnath, A. Gurtoo, F. Tietze and R. Hernandez, *Sustainability transitions in manufacturing: the role of intellectual property*, COSUST 2021(49), p. 122; cf. D. S. Karjala, *Sustainability and intellectual property rights in traditional knowledge*, *Jurimetrics*, 2012(53), p. 58.

<sup>93</sup>E. Eppinger, A. Jain, P. Vimalnath, A. Gurtoo, F. Tietze and R. Hernandez, *Sustainability transitions in manufacturing: the role of intellectual property*, COSUST 2021(49), p. 121.



### 15.3.3 Design Law

Design rights offer an easier and cheaper way to protect the aesthetic appearance of a product compared to other intellectual property rights like patents.<sup>94</sup> These rights are gaining importance especially in industries such as fashion, consumer goods, mechanical engineering, automotive and aerospace.<sup>95</sup> It is a so-called unexamined IP right, which arises by entry in the register at the DPMA. The application under Sec. 11 Design Act (DesignG)<sup>96</sup> must contain a request for registration, information allowing the identity of the applicant to be established and a representation of the design suitable for publication. Under Sec. 16 DesignG, the DPMA only examines whether the application fees under Sec. 5(1), first sentence, of the Patent Costs Law and the requirements for obtaining a date of filing under Sec. 11(2) are met and whether the application complies with the other filing requirements. The requirements for obtaining such protection are relatively low and the application is filed quickly since only a formal examination is undertaken and not all substantive requirements have to be elaborately examined first.<sup>97</sup>

For example, the specific designs of car or aircraft parts that reduce air resistance and thereby result in better fuel efficiency can be protected as ‘green’ products.<sup>98</sup> In the future, design rights may become even more relevant as 3D printing gains momentum as a potentially sustainable manufacturing process.<sup>99</sup> The sustainability potential of 3D printing lies in the fact that waste production is significantly reduced.<sup>100</sup> The reason for this is that unlike conventional production methods, the materials do not have to be moulded.<sup>101</sup>

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<sup>94</sup>C. W. Davies, T. Nener, N. Pereira, Green IP, the role of intellectual property in sustainability (2021), Financier Worldwide, available at <https://www.financierworldwide.com/green-ip-the-role-of-intellectual-property-in-sustainability>. Accessed 13 July 2022.

<sup>95</sup>C. W. Davies, T. Nener, N. Pereira, Green IP, the role of intellectual property in sustainability (2021), Financier Worldwide, available at <https://www.financierworldwide.com/green-ip-the-role-of-intellectual-property-in-sustainability>. Accessed 13 July 2022.

<sup>96</sup>Act on the Legal Protection of Designs, Bundesgesetzblatt 2014 I p. 122, last amended on 10 August 2021 (Bundesgesetzblatt I p. 3490).

<sup>97</sup>F. Klein, GREEN IP - A look at how sustainability influences IP and how IP can help in achieving sustainability, available at <https://www.ashurst.com/en/news-and-insights/legal-updates/a-look-at-how-sustainability-influences-ip-and-how-ip-can-help-in-achieving-sustainability/>. Accessed 13 July 2022.

<sup>98</sup>F. Klein, GREEN IP - A look at how sustainability influences IP and how IP can help in achieving sustainability, available at <https://www.ashurst.com/en/news-and-insights/legal-updates/a-look-at-how-sustainability-influences-ip-and-how-ip-can-help-in-achieving-sustainability/>. Accessed 13 July 2022.

<sup>99</sup>C. W. Davies, T. Nener, N. Pereira, Green IP, the role of intellectual property in sustainability (2021), Financier Worldwide, available at <https://www.financierworldwide.com/green-ip-the-role-of-intellectual-property-in-sustainability>. Accessed 13 July 2022.

<sup>100</sup>C. W. Davies, T. Nener, N. Pereira, Green IP, the role of intellectual property in sustainability (2021), Financier Worldwide, available at <https://www.financierworldwide.com/green-ip-the-role-of-intellectual-property-in-sustainability>. Accessed 13 July 2022.

<sup>101</sup>C. W. Davies, T. Nener, N. Pereira, Green IP, the role of intellectual property in sustainability (2021), Financier Worldwide, available at <https://www.financierworldwide.com/green-ip-the-role-of-intellectual-property-in-sustainability>. Accessed 13 July 2022.



Design as such also plays a big role in sustainability. Products can be designed to be more streamlined and efficient or made from recycled materials so that they have less of a harmful impact on the climate. Modular mattresses can be mentioned here as an example, in which individual parts can be sustainably replaced.<sup>102</sup> Design law allows these innovative approaches to be fully protected, from marketing logos and packaging to the shape of furniture and vehicles to the user interfaces of computers and smartphones.<sup>103</sup> This is a great advantage for the designers of environmentally friendly products and services, as they can then fully benefit from the marketing of these products.<sup>104</sup>

However, as with the other types of intellectual property rights, this comprehensive protection is accompanied by the problem that third parties are excluded from using the design and only the designer can offer the specific product. Sustainable designs are thus restricted in their dissemination if the owners oppose licensing. Unlike the Patent Act, the Design Act does not provide any possibility of compulsory licensing.

### 15.3.4 Copyright

Copyright protects the author in his or her ‘personal intellectual creation’ (Sec. 2 (2) UrhG<sup>105</sup>).<sup>106</sup> It is therefore, at least from the earlier idea, not an industrial intellectual property right in the classical sense<sup>107</sup> but places the protection of the creative work of each individual in the foreground (Sec. 1 UrhG). On this basis, at first glance it seems far-fetched that copyright has any impact on the broad understanding of the concept of sustainability at all. However, there are several ways in which copyright can have an impact on sustainable action.

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<sup>102</sup>WIPO (2020), World Intellectual Property Day 2020 - Innovate for a green future, Design rights and sustainability, available at [https://www.wipo.int/ip-outreach/en/ipday/2020/articles/design\\_rights.html](https://www.wipo.int/ip-outreach/en/ipday/2020/articles/design_rights.html). Accessed 13 July 2022.

<sup>103</sup>WIPO (2020), World Intellectual Property Day 2020 - Innovate for a green future, Design rights and sustainability, available at [https://www.wipo.int/ip-outreach/en/ipday/2020/articles/design\\_rights.html](https://www.wipo.int/ip-outreach/en/ipday/2020/articles/design_rights.html). Accessed 13 July 2022.

<sup>104</sup>WIPO (2020), World Intellectual Property Day 2020 - Innovate for a green future, Design rights and sustainability, available at [https://www.wipo.int/ip-outreach/en/ipday/2020/articles/design\\_rights.html](https://www.wipo.int/ip-outreach/en/ipday/2020/articles/design_rights.html). Accessed 13 July 2022.

<sup>105</sup>Act on Copyright and Related Rights, Bundesgesetzblatt 1965 I p. 1273, last amended on 23 June 2021 (Bundesgesetzblatt I p. 1858).

<sup>106</sup>W. Bullinger, In: Wandtke and Bullinger (eds), Praxiskommentar Urheberrecht, ed 6, C.H.Beck 2022, § 1 UrhG para 1.

<sup>107</sup>U. Loewenheim, In: Schricker and Loewenheim, Urheberrecht, ed 6, C.H.Beck 2020, Einleitung zum UrhG para 10.

#### 15.3.4.1 Sustainable Works

On the one hand, copyright can protect works such as films, books or plays that deal with the issue of sustainability and thus give creators an incentive to develop such works.<sup>108</sup> Admittedly, there also is a risk here that the works protected by copyright will only become known to a small part of the public. However, this problem is in no way comparable to that of patent law or the law on the protection of secrets, since in copyright law there is much greater pressure for the work to be offered, otherwise no profits can be generated. This is not the case with the law on the protection of secrets and patent law since inventors and/or bearers of secrets can also use the protected goods profitably for their own purposes. Moreover, in copyright law there is no danger of having a single solution that is then denied to all others by a protective right.

However, there may be exceptions to this in special case constellations. A possible problematic scenario might be if only one photographer has photographed a particular natural phenomenon.<sup>109</sup> This could have a particularly important function in drawing attention to the circumstances of climate change.<sup>110</sup> Under the protection of copyright law Sec. 2 (1) No. 5, Sec. 72 UrhG, a monopolistic position would then accrue to this unique photograph.<sup>111</sup> However, it should be emphasised that this covers rather rare exceptions, which are to be accepted in this way. Finally, it is also true here—and even more so—that a unique photograph only acquires value through its licensing.

#### 15.3.4.2 Official Works

Another field in which copyright can become relevant is an exception to copyright protection.<sup>112</sup> Official works are excluded from copyright (Sec. 5 UrhG). According to this, ‘*laws, ordinances, official decrees and notices as well as decisions and officially drafted guidelines to decisions*’ (Sec. 5 (1) UrhG) and ‘*other official works which have been published in the official interest for general knowledge*’ (Sec. 5 (2) UrhG) are in the public domain.<sup>113</sup> This can become relevant in the case of

<sup>108</sup>E. Eppinger, A. Jain, P. Vimalnath, A. Gurtoo, F. Tietze and R. Hernandez, Sustainability transitions in manufacturing: the role of intellectual property, COSUST 2021(49), pp. 118–126.

<sup>109</sup>E. Derclaye (2012), The role of copyright in the protection of the environment and the fight against climate change: is the current copyright system adequate?, pp. 369 ff.

<sup>110</sup>E. Derclaye (2012), The role of copyright in the protection of the environment and the fight against climate change: is the current copyright system adequate?, pp. 369 ff.

<sup>111</sup>E. Derclaye (2012), The role of copyright in the protection of the environment and the fight against climate change: is the current copyright system adequate?, pp. 369 ff.

<sup>112</sup>E. Derclaye (2012), The role of copyright in the protection of the environment and the fight against climate change: is the current copyright system adequate?, p. 369.

<sup>113</sup>For a more detailed explanation of the eight different official works see O. Lampe, Informationen des Bundesamts für Sicherheit in der Informationstechnik: Urheberrechtlicher Schutz oder freie Nutzung?, ZdiW 2021(7), pp. 279–282.

contributions by the state that deal with the environment and sustainability.<sup>114</sup> However, by no means all contributions written with taxpayers' money are covered by this exception, so useful contributions are still protected by copyright.<sup>115</sup> In addition, case law on the subject shows that the state does take action against the use of its contributions,<sup>116</sup> so that there is legal uncertainty here when such contributions are used. This can make the exchange of knowledge and the dissemination of contributions financed with taxpayers' money more difficult.

### 15.3.4.3 Software, Algorithms and Data

Actual technical developments that achieve sustainable development can also be partially protected by copyright law. For example, algorithms can be used to optimise processes.<sup>117</sup> The scope of protection of copyright also extends to computer programs (Sec. 69a ff. UrhG), so that software and algorithms can enjoy copyright protection.<sup>118</sup> While the pure 'idea' does not enjoy copyright protection, the specific code is protected from use by third parties via copyright.<sup>119</sup> The evaluation of software and data can be crucial to improve existing technologies in an environmentally friendly way or to make entirely new ('green') technologies possible in the first place.<sup>120</sup> Software itself can thus contribute to a greener economy in various ways. Its possibilities range from recording and evaluating a

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<sup>114</sup>E. Derclaye (2012), The role of copyright in the protection of the environment and the fight against climate change: is the current copyright system adequate?, p. 370.

<sup>115</sup>See among others: BGH, Judgement of 20 July 2006 - I ZR 185/03, GRUR 2007(2), p. 137; BGH, Judgement of 12 June 1981 - I ZR 95/79, GRUR 1982(1), p. 37.

<sup>116</sup>BGH, Judgement of 20 July 2006 - I ZR 185/03, GRUR 2007, pp. 137–138; BGH, Judgement of 12 June 1981 - I ZR 95/79, GRUR 1982, p. 37; OLG Stuttgart, Judgement of 14 July 2010 - 4 U 24/10, ZUM-RD 2011, pp. 20–22. See also the problems described in detail: O. Lampe, Informationen des Bundesamts für Sicherheit in der Informationstechnik: Urheberrechtlicher Schutz oder freie Nutzung?, ZdiW 2021(7), pp. 279–282.

<sup>117</sup>C. W. Davies, T. Nener and N. Pereira, Green IP, the role of intellectual property in sustainability (2021), Financier Worldwide, available at <https://www.financierworldwide.com/green-ip-the-role-of-intellectual-property-in-sustainability>. Accessed 13 July 2022; E. Eppinger, A. Jain, P. Vimalnath, A. Gurtoo, F. Tietze and R. Hernandez, Sustainability transitions in manufacturing: the role of intellectual property, COSUST 2021(49), pp. 118–126.

<sup>118</sup>Klein, Fabian (2020), GREEN IP - A look at how sustainability influences IP and how IP can help in achieving sustainability, available at <https://www.ashurst.com/en/news-and-insights/legal-updates/a-look-at-how-sustainability-influences-ip-and-how-ip-can-help-in-achieving-sustainability/>. Accessed 14 June 2022.

<sup>119</sup>Klein, Fabian (2020), GREEN IP - A look at how sustainability influences IP and how IP can help in achieving sustainability, available at <https://www.ashurst.com/en/news-and-insights/legal-updates/a-look-at-how-sustainability-influences-ip-and-how-ip-can-help-in-achieving-sustainability/>. Accessed 14 June 2022.

<sup>120</sup>Klein, Fabian (2020), GREEN IP - A look at how sustainability influences IP and how IP can help in achieving sustainability, available at <https://www.ashurst.com/en/news-and-insights/legal-updates/a-look-at-how-sustainability-influences-ip-and-how-ip-can-help-in-achieving-sustainability/>. Accessed 14 June 2022.

company's emissions<sup>121</sup> to streamlining and optimising supply and production lines.<sup>122</sup> Nevertheless, when it comes to copyright protection, it is necessary to bear in mind that only the exact source code can be protected but not the underlying and more profound idea.<sup>123</sup> This makes it possible to use modified source codes.

The data already mentioned can also be protected, at least in part, via copyright. However, this does not apply to 'raw climate data', as pure facts are excluded from protection.<sup>124</sup> If they only have any specific structure, protection will generally fail due to the requirements of Sec. 2 (2) UrhG.<sup>125</sup> If the required level of creation is nonetheless given, protection as a database work (Sec. 4 (2) UrhG) may be considered. This would entail the consequence that the duration of protection of 70 years after death would also apply (Sec. 64 UrhG). In turn this may result in (required) historical data also potentially becoming a liability risk over a long period of time as the data ages, making it increasingly difficult to trace the copyright holder (or his heirs) to acquire a right of use.<sup>126</sup> However, a database producer's right to the data collection or to the user interface to the database could still exist (Sec. 87a ff. UrhG). It is positive to note that there are exceptions to the rule for scientific research (Sec. 87c (1) No. 2 UrhG). However, these exceptions are quite limited.

#### 15.3.4.4 Interim Result

It turns out that, contrary to first appearances, copyright law can indeed have an impact on the field of sustainable trade. However, the protection is incomplete and can only intervene in addition to other intellectual property rights. However, it also has its own key area through the protection of creative engagement with the topic of 'sustainability', which should not be underestimated. The problem of the monopolistic position of a creator is by far not as great as with patent law and secret protection law.

### 15.3.5 Trademark Law

The Act on the Protection of Trade Marks and other Signs (hereinafter MarkenG) protects trademarks, business designations and geographical indications in

<sup>121</sup>C. W. Davies, T. Nener and N. Pereira, Green IP, the role of intellectual property in sustainability (2021), *Financier Worldwide*, available at <https://www.financierworldwide.com/green-ip-the-role-of-intellectual-property-in-sustainability>. Accessed 13 July 2022.

<sup>122</sup>E. Eppinger, A. Jain, P. Vimalnath, A. Gurtoo, F. Tietze and R. Hernandez, Sustainability transitions in manufacturing: the role of intellectual property, *COSUST* 2021(49), pp. 118–126.

<sup>123</sup>G. Schulze, in: Dreier and Schulze (eds.), *Urheberrechtsgesetz*, 7th ed. 2022, § 2 para 127.

<sup>124</sup>M. Carroll, Intellectual Property and Related Rights in Climate Data, in: J. Sarnoff (ed.), *Research Handbook on Intellectual Property and Climate Change*, 2016, p. 386.

<sup>125</sup>M. Carroll, Intellectual Property and Related Rights in Climate Data, in: J. Sarnoff (ed.), *Research Handbook on Intellectual Property and Climate Change*, 2016, p. 387.

<sup>126</sup>M. Carroll, Intellectual Property and Related Rights in Climate Data, in: J. Sarnoff (ed.), *Research Handbook on Intellectual Property and Climate Change*, 2016, pp. 387–388.

accordance with Sec. 1 MarkenG. Under Sec. 3 MarkenG, all signs may be protected as trademarks which can distinguish the goods or services of one undertaking from those of other undertakings. Signs consisting exclusively of shapes or other characteristic features which are due to the nature of the goods themselves, which are necessary to achieve a technical effect or which confer substantial value on the goods are excluded. Section 4 of the Trade Mark Act distinguishes between registered trademarks (No. 1), utility marks (No. 2) and notoriety marks (No. 3).

The purpose of the use of certain brands is already not limited to a proof of origin, but also serves to communicate certain ideals and objectives of the using company as well as outstanding characteristics of the products.<sup>127</sup> Trademarks can have an impact on sustainability as consumers can see how sustainable a certain product is. They can communicate attitudes and principles of a company in relation to its efforts to design its products in an environmentally friendly way.<sup>128</sup> This results in transparency for consumers who can understand the higher prices of more sustainable products.<sup>129</sup> However, there are also certain terms and designations that cannot be protected as trademarks because they have a purely descriptive function, (Sec. 8 (2) No. 2 MarkenG). Such terms must be freely available to all companies so that they can also describe their goods accordingly. Nevertheless, trademark owners are not prevented from using phrases such as ‘green’ or ‘eco’ as part of the brand.<sup>130</sup>

In Sec. 106a MarkenG, the so-called certification mark<sup>131</sup> was implemented in the German Trademark Act. This mark guarantees certain characteristics of a product and thus focuses on the guaranteed function instead of the origin function.<sup>132</sup> The owner of a certification mark specifies corresponding quality features in a statute, which must at least meet the requirements of Sec. 106d (2) MarkenG, and grants licences only to those licence applicants who fulfil the criteria mentioned. Under Sec. 106b MarkenG, the trademark proprietor may not himself be active in the field for which he grants corresponding quality trademarks, which is intended to avoid a conflict of interests.<sup>133</sup> Classic seals such as the TÜV seal<sup>134</sup> can be considered as a

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<sup>127</sup>G. Elskamp and S. Völker, Die neuen Markenfunktionen des EuGH, WRP 2010, p. 69.

<sup>128</sup>F. Klein, GREEN IP - A look at how sustainability influences IP and how IP can help in achieving sustainability, available at <https://www.ashurst.com/en/news-and-insights/legal-updates/a-look-at-how-sustainability-influences-ip-and-how-ip-can-help-in-achieving-sustainability/>. Accessed 13 July 2022.

<sup>129</sup>D. Seeliger and K. Gürer, Kartellrecht und Nachhaltigkeit: Neue Regeln für Umweltschutzvereinbarungen von Wettbewerbern? BB 2021, p. 2050.

<sup>130</sup>C. W. Davies, T. Nener and N. Pereira, Green IP, the role of intellectual property in sustainability (2021), Financier Worldwide, available at <https://www.financierworldwide.com/green-ip-the-role-of-intellectual-property-in-sustainability>. Accessed 13 July 2022.

<sup>131</sup>See also: <https://www.dpma.de/marken/markenschutz/mamog/gewahrleistungsmarke/index.html>. Accessed 14 July 2022.

<sup>132</sup>M. Vohwinkel, In: Kur, v. Bomhard and Albrecht (ed.), BeckOK Markenrecht, 29<sup>th</sup> ed 2022, § 106a MarkenG.

<sup>133</sup>M. Vohwinkel, In: Kur, v. Bomhard and Albrecht (ed.), BeckOK Markenrecht, 29<sup>th</sup> ed 2022, § 106a MarkenG, para 3.

<sup>134</sup><https://register.dpma.de/DPMAREgister/marke/registerHABM?AKZ=017277849&CURSOR=3>. Accessed 14 July 2022.

certification mark. At the same time, trademark law with the certification mark also offers enormous potential to facilitate sustainable consumption decisions for consumers and can thus already make a decisive contribution to the promotion of sustainability in its current form.

For example, the EU Ecolabel,<sup>135</sup> the FSC label<sup>136</sup> or the Rainforest Alliance seal<sup>137</sup> are well-known seals for sustainable products. In all cases, these are certification marks. Consumers are thereby able to compare the sustainability of different products and subsequently make an informed and, in the best case, sustainable purchase decision without having to undertake more in-depth research. It turns out that consumers are more likely to choose the more environmentally friendly products, even if this means higher costs for them.<sup>138</sup>

Although ‘green’ appearing trademarks also harbour the danger of so-called ‘greenwashing’, in which trademarks that are not particularly environmentally friendly merely give the impression that consumers are making a particularly sustainable choice by a certain choice of trademark — for example, by using green colour. However, this is attempted to be counteracted by the prohibition of the registration of misleading trademarks in Sec. 8 (2) No. 4 MarkenG.<sup>139</sup>

In the case of the designated seal as a certification mark, the danger of ‘greenwashing’ is rather low due to the statutory requirement and corresponding inspection obligations of the trademark proprietor. Section 106e (2) MarkenG further strengthens the general prohibition of deception for certification marks.<sup>140</sup> As criticised by some environmental activists, the fact that such seals often only show a minimum standard and pretend to be more sustainable than the certified product actually offers could prove to be problematic.<sup>141</sup> Nevertheless, certification marks at least offer the possibility to point out certain features such as environmental balances and thus to distinguish more sustainable products from less sustainable products.

<sup>135</sup><https://register.dpma.de/DPMAREgister/marke/registerHABM?AKZ=018055852&CURSOR=12>. Accessed 14 July 2022.

<sup>136</sup><https://register.dpma.de/DPMAREgister/marke/registerHABM?AKZ=018032783&CURSOR=0>. Accessed 14 July 2022.

<sup>137</sup><https://register.dpma.de/DPMAREgister/marke/registerHABM?AKZ=018323648&CURSOR=5>. Accessed 14 July 2022.

<sup>138</sup>For example, EU Commission (2021): Commission’s new consumer survey shows impact of COVID-19 and popularity of ‘greener’ choices consumer survey, available at: [https://ec.europa.eu/commission/presscorner/detail/de/ip\\_21\\_1104](https://ec.europa.eu/commission/presscorner/detail/de/ip_21_1104). Accessed 14 July 2022.

<sup>139</sup>E. Rosati (2022), Green with ... IP, available at [https://euipo.europa.eu/ohimportal/en/news?p\\_p\\_id=csnews\\_WAR\\_csnewsportlet&p\\_p\\_lifecycle=0&p\\_p\\_state=normal&p\\_p\\_mode=view&p\\_p\\_col\\_id=column-1&p\\_p\\_col\\_count=2&journalId=9135001&journalRelatedId=manual/](https://euipo.europa.eu/ohimportal/en/news?p_p_id=csnews_WAR_csnewsportlet&p_p_lifecycle=0&p_p_state=normal&p_p_mode=view&p_p_col_id=column-1&p_p_col_count=2&journalId=9135001&journalRelatedId=manual/). Accessed 4 July 2022.

<sup>140</sup>F. Albrecht, In: Kur, v. Bomhard and Albrecht (ed.), BeckOK Markenrecht, 29<sup>th</sup> ed 2022, § 8 MarkenG para 641.

<sup>141</sup>For example, W. Huismann (2018), Dunkle Geschäfte mit dem MSC-Siegel, available at <https://www.tagesschau.de/inland/bio-fisch-guetesiegel-101.html>. Accessed 14 July 2022; S. Biegger (2021), Als Bio in die Breite ging, available at <https://www.tagesschau.de/wirtschaft/biosiegel-101.html>. Accessed 14 July 2022.

Trademark law can thereby significantly advance the goal of a more sustainable economy. In the case of trademarks, the exclusive right does not lead to a conflict of interests such as in the case of the intellectual property rights mentioned above. The trademark is only intended to refer to a company and its products. This means that the image of a sustainable company can only be used to advertise a company that acts in the spirit of sustainability.

### 15.3.6 Interim Result

It becomes apparent that the various intellectual property rights can have both positive and negative effects on research and development in the field of sustainability. It turns out that not only technical gauges are affected, but also artistic and marketing-ready versions that can have a positive impact on a company's reputation and thus advance the sustainability issue within the company. However, it is also clear that while intellectual property rights have the potential to advance 'green' technologies, they have not yet been specifically designed to have such an impact. These are rather incidental sustainability effects. In the case of most intellectual property rights, there is a tension between the incentive function for the development of sustainable technologies and the inhibition function regarding the rapid dissemination of these innovations. This problem is already known and is not an explicit problem in the field of sustainability. The most important factor determining whether the positive or negative role predominates in the balance is the concrete design and scope of protection of these rights.<sup>142</sup>

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## 15.4 Promoting Sustainability in the Context of Intellectual Property Rights—Outlook and Ideas

The results show that intellectual property rights certainly have the potential to promote sustainability and thus already provide good approaches in some areas. Nevertheless, the potential of intellectual property rights is far from exhausted. In the following, proposals will be examined that can contribute to further advancing sustainability through the targeted use of intellectual property rights.

### 15.4.1 Patent Law

As it turned out, patent law can drive sustainable innovation, but at the same time can also be an obstacle to sustainable development because of the monopolies it creates.

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<sup>142</sup> A. Deren and J. Skonieczny (2022), Green Intellectual Property as a Strategic Resource in the Sustainable Development of an Organisation, available at <https://www.mdpi.com/2071-1050/14/8/4758>. Accessed 14 July 2022.

The goal should therefore be to reform patent law in such way that it does not become a brake on innovation but a driving force for sustainable development.

#### 15.4.1.1 Green Impact Fund for Technology

A possible problem of patent law is that it is left to the patent holder to decide to whom the invention is granted. The only exception to this is the means of compulsory licensing. Countries in the global South are most affected by climate change, although they contribute hardly anything compared to the industrialised nations.<sup>143</sup> With rising population and the associated increase in emissions in these countries as well, the problem is becoming even more serious.<sup>144</sup>

The greatest efforts to reduce emissions are being made in the countries with the highest taxes and market prices for emissions.<sup>145</sup> Consequently, efforts should be made to strengthen the transfer of sustainable technologies to these regions, for example through publicly funded research and development cooperation.<sup>146</sup>

To break through this contradictory development, the establishment of a Green Impact Fund for Technology (GIFT) is currently being discussed. This would be a (supra-) nationally financed impact fund, in which the registered patent holders would be paid fixed amounts annually, divided according to the emissions they avoided in the previous year. In return, the patent holders would have to offer permanent royalty-free licences for the registered technology. Only the countries of the global South involved could benefit from the free licensing. Ideally, companies in these countries should be able to draw on several patented inventions relating to different components.<sup>147</sup> By rewarding real emission savings, a cost incentive would be set for sustainable technologies that are as effective as possible, i.e. in contrast to conventional innovation premiums, the actual feasibility would also be taken into account.<sup>148</sup> The basic possibility of evaluating the emission

<sup>143</sup>F. Ekaradt (2010) Klimawandel und soziale Gerechtigkeit, p. 3, available at [https://www.kas.de/c/document\\_library/get\\_file?uuid=5f333536-2589-7f03-c07d-1ceea90afc48&groupId=252038](https://www.kas.de/c/document_library/get_file?uuid=5f333536-2589-7f03-c07d-1ceea90afc48&groupId=252038). Accessed 15 July 2022.

<sup>144</sup>A. Hollis and T. Pogge (2020), Green Impact Fund for Technology, p. 1, available at <https://cpb-us-w2.wpmucdn.com/campuspress.yale.edu/dist/6/1129/files/2022/04/GIFT-White-Paper-2022-04-12.pdf>. Accessed 14 July 2022.

<sup>145</sup>A. Hollis and T. Pogge (2020), Green Impact Fund for Technology, p. 2, available at <https://cpb-us-w2.wpmucdn.com/campuspress.yale.edu/dist/6/1129/files/2022/04/GIFT-White-Paper-2022-04-12.pdf>. Accessed 14 July 2022.

<sup>146</sup>C. Heinze, Patentrecht und Klimawandel – eine Skizze, GRUR Newsletter 2020(1), p. 7.

<sup>147</sup>A. Hollis and T. Pogge (2020), Green Impact Fund for Technology, p. 2, available at <https://cpb-us-w2.wpmucdn.com/campuspress.yale.edu/dist/6/1129/files/2022/04/GIFT-White-Paper-2022-04-12.pdf>. Accessed 14 July 2022; D. Azhgaliyeva, A. Hollis, T. Pogge, D. Rahut and Y. Yao (2022), Financing a Green Future: The Energy Transition Mechanism (ETM) and the Green Impact Fund for Technology (GIFT), available at [https://www.think7.org/wp-content/uploads/2022/04/Climate\\_Financing-a-green-future-the-energy-transition-mechanism-ETM-and-the-green-impact-fund-for-technology-GIFT\\_Azhgaliyeva\\_Holli\\_Pogge\\_Rahut\\_Yao.pdf](https://www.think7.org/wp-content/uploads/2022/04/Climate_Financing-a-green-future-the-energy-transition-mechanism-ETM-and-the-green-impact-fund-for-technology-GIFT_Azhgaliyeva_Holli_Pogge_Rahut_Yao.pdf). Accessed 14 July 2022.

<sup>148</sup>A. Hollis and T. Pogge (2020), Green Impact Fund for Technology, pp. 2 ff., available at <https://cpb-us-w2.wpmucdn.com/campuspress.yale.edu/dist/6/1129/files/2022/04/GIFT-White-Paper->



reductions attributable to the use of GIFT-registered technologies was recently confirmed, subject to a prior test phase.<sup>149</sup>

### 15.4.1.2 National Level

At national level there are various starting points for promoting sustainability in the context of patent rights too. One starting point for improvement are the patenting requirements.

#### 15.4.1.2.1 Amendment of Patenting Requirements

The patenting of climate-friendly technologies could be stimulated, for example, by lowering the requirements for an inventive activity.<sup>150</sup> However, this would create the danger of ‘weak patents’ and thus a patent allocation that hinders innovation.<sup>151</sup> This is because exclusive rights would be granted for trivial modifications or obvious applications of products or processes for environmentally friendly purposes.<sup>152</sup> This would jeopardise legal certainty.<sup>153</sup> It would also hinder new market entrants and unnecessarily increase transaction costs.<sup>154</sup> Accordingly, a reduction of the inventive activity requirement for climate-friendly technologies is not advisable.<sup>155</sup> Only in the context of assessing novelty and inventive step, the sustainability-securing function of patent law in Germany could be effectively improved by considering the invention of applications of known technologies which are more climate-friendly or sustainable, as a sufficient contribution.<sup>156</sup>

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[2022-04-12.pdf](#). Accessed 14 July 2022; D. Azhgaliyeva, A. Hollis, T. Pogge, D. Rahut and Y. Yao (2022), *Financing a Green Future: The Energy Transition Mechanism (ETM) and the Green Impact Fund for Technology (GIFT)*, p. 5, available at [https://www.think7.org/wp-content/uploads/2022/04/Climate\\_Financing-a-green-future-the-energy-transition-mechanism-ETM-and-the-green-impact-fund-for-technology-GIFT\\_Azhgaliyeva\\_Holli\\_Pogge\\_Rahut\\_Yao.pdf](https://www.think7.org/wp-content/uploads/2022/04/Climate_Financing-a-green-future-the-energy-transition-mechanism-ETM-and-the-green-impact-fund-for-technology-GIFT_Azhgaliyeva_Holli_Pogge_Rahut_Yao.pdf). Accessed 14 July 2022.

<sup>149</sup>R. Block, Expert opinion of TUEV Süd (2022), available at <https://cpb-us-w2.wpmucdn.com/campuspress.yale.edu/dist/6/1129/files/2022/06/TU%CC%88V.pdf>. Accessed 14 July 2022.

<sup>150</sup>C. Heinze, *Patentrecht und Klimawandel – eine Skizze*, GRUR Newsletter 2020(1), p. 6.

<sup>151</sup>C. Heinze, *Patent Law and Climate Change - Do We Need an EU Patent Law Directive on Clean Technology?* GRUR Int. 2021, p. 558.

<sup>152</sup>G. Henry, *Intellectual Property Rights and Green Technologies*, p. 13, AIPPI 2010, available at <https://www.aippi.fr/upload/Prix%20AIPPI/greentech-ipr-1st-academic-prize-dr.-guillaume-henry.pdf>. Accessed 15 July 2022.

<sup>153</sup>C. Heinze, *Patent Law and Climate Change - Do We Need an EU Patent Law Directive on Clean Technology?* GRUR Int. 2021, p. 558.

<sup>154</sup>G. Henry, *Intellectual Property Rights and Green Technologies*, p. 13, AIPPI 2010, available at <https://www.aippi.fr/upload/Prix%20AIPPI/greentech-ipr-1st-academic-prize-dr.-guillaume-henry.pdf>. Accessed 15 July 2022.

<sup>155</sup>G. Henry, *Intellectual Property Rights and Green Technologies*, p. 13, AIPPI 2010, available at <https://www.aippi.fr/upload/Prix%20AIPPI/greentech-ipr-1st-academic-prize-dr.-guillaume-henry.pdf>. Accessed 15 July 2022.

<sup>156</sup>C. Heinze, *Patentrecht und Klimawandel – eine Skizze*, GRUR Newsletter 2020(1), p. 6.

### 15.4.1.2.2 Patent Exclusion

Furthermore, it is proposed to completely deny patenting of climate-damaging technologies with reference to a violation of public policy.<sup>157</sup> The Board of Appeal of the European Patent Office has already mentioned that the concept of public policy also includes environmental protection.<sup>158</sup> The benefit to mankind had to be weighed against the possible risks to the environment.<sup>159</sup> Inventions that are likely to seriously damage the environment can therefore be excluded from patentability.<sup>160</sup> In extreme cases of particularly climate-damaging inventions, the denial of patentability on the grounds of a violation of public policy certainly appears to be an appropriate remedy. However, it becomes difficult to determine when an invention is to be classified as so harmful to the environment that it is denied patentability. This would always require a case-by-case consideration and thus lead to legal uncertainty.

Furthermore, if we are not dealing with extreme cases, a balancing with other legitimate goals (e.g. energy security) is always required, so that a fine adjustment seems more appropriate than a fundamental exclusion of patentability.<sup>161</sup> However, this can be achieved more effectively within the framework of regulation by means of energy and environmental law (e.g. by means of emissions taxation).<sup>162</sup>

### 15.4.1.2.3 Accelerated Granting Procedure

In addition to the patenting requirements, another aspect is the patenting procedure. In some other countries, such as the United States and the United Kingdom, but also in Israel, Canada, Australia, Japan and Korea, there has been an accelerated patenting procedure for more than ten years.<sup>163</sup> In the United Kingdom, there is the possibility of an accelerated grant procedure for sustainable technologies (so-called 'Green Channel').<sup>164</sup> According to the English Patent Office, the usual time span of three to five years between application and grant of the patent was

<sup>157</sup> C. Heinze, *Patentrecht und Klimawandel – eine Skizze*, GRUR Newsletter 2020(1), p. 6.

<sup>158</sup> EPO, case T 0315/2003, *Transgenic animals v HARVARD*, ECLI:EP:BA:2004:T031503.20040706, para 10.2.

<sup>159</sup> EPO, case T 0315/2003, *Transgenic animals v HARVARD*, ECLI:EP:BA:2004:T031503.20040706, para 10.2.

<sup>160</sup> EPO, case T 0315/2003, *Transgenic animals v HARVARD*, ECLI:EP:BA:2004:T031503.20040706, para 10.2.

<sup>161</sup> C. Heinze, *Patent Law and Climate Change - Do We Need an EU Patent Law Directive on Clean Technology?* GRUR Int. 2021, p. 559.

<sup>162</sup> C. Heinze, *Patentrecht und Klimawandel – eine Skizze*, GRUR Newsletter 2020(1), p. 6.

<sup>163</sup> E. Lane, *Building the global green patent highway: a proposal for international harmonization of green technology fast track programs*, in: University of California (ed.), *Berkley Technology Law Journal* 2012, Vol. 27, No. 2, p. 1136.

<sup>164</sup> Klein, Fabian (2020), *GREEN IP - A look at how sustainability influences IP and how IP can help in achieving sustainability*, available at <https://www.ashurst.com/en/news-and-insights/legal-updates/a-look-at-how-sustainability-influences-ip-and-how-ip-can-help-in-achieving-sustainability/>. Accessed 14 June 2022.

reduced to eight to nine months in this procedure.<sup>165</sup> There is currently no equivalent accelerated grant procedure for sustainable technologies in Germany. While the EPO offers an accelerated granting procedure, the so-called PACE programme, this is by no means linked to sustainability requirements yet.<sup>166</sup> An accelerated procedure for sustainable technologies would potentially have advantages both for the applicant and for his competitors who would have legal certainty at an early stage if the application is rejected.<sup>167</sup> Moreover, the introduction of such a procedure would in all likelihood encourage investment in 'green' technologies.<sup>168</sup> Therefore, an accelerated patenting procedure for sustainable technologies should be considered in Germany.

#### 15.4.1.2.4 Cost Savings for 'Green' Inventors

As a further consideration, one could think of relying on perks as an incentive, by reducing the costs of the application and maintenance. Similarly, as Sec. 23 (1) sentence 1 PatG does for the costs under Sec. 17 PatG in the case of a license agreement, it would be conceivable to grant reductions for patenting 'green' inventions. This would be possible, for example, by inserting a further paragraph in Sec. 23 PatG and could create a further incentive to invest in the development of sustainable inventions. Though, it should be noted that this approach does not eliminate the problems associated with the monopolisation of the 'green' invention. It would therefore be more recommendable to combine the additional reduction with the declaration of willingness to license already standardised in Sec. 23 (1) sentence 1 PatG, so that the patenting and maintenance of 'green' inventions becomes particularly attractive in terms of costs, but at the same time a dissemination of the invention is also promoted.

#### 15.4.1.2.5 Compulsory Licence and Tacit Licence

A further approach to improve sustainability concerns licences. One way to circumvent the dissemination-inhibiting effect of patents is to introduce an obligation to license sustainability-related inventions (so-called 'compulsory licensing'). However, such scheme could significantly slow down the pace of innovation, especially if companies would have to pass on their technologies before they have recouped their

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<sup>165</sup>G. Henry (2010), Intellectual Property Rights and Green Technologies, p. 15, available at <https://www.aippi.fr/upload/Prix%20AIPPI/greentech-ipr-1st-academic-prize-dr.-guillaume-henry.pdf>. Accessed 14 July 2022.

<sup>166</sup>[https://www.epo.org/law-practice/legal-texts/html/guidelines/e/e\\_viii\\_4.htm](https://www.epo.org/law-practice/legal-texts/html/guidelines/e/e_viii_4.htm). Accessed July 15 2022; C. Heinze, Patent Law and Climate Change - Do We Need an EU Patent Law Directive on Clean Technology? GRUR Int. 2021, p. 559.

<sup>167</sup>C. Heinze, Patent Law and Climate Change - Do We Need an EU Patent Law Directive on Clean Technology? GRUR Int. 2021, p. 559.

<sup>168</sup>G. Henry, Intellectual Property Rights and Green Technologies, p. 15, AIPPI 2010, available at <https://www.aippi.fr/upload/Prix%20AIPPI/greentech-ipr-1st-academic-prize-dr.-guillaume-henry.pdf>. Accessed 14 July 2022.

investments in research and development.<sup>169</sup> In addition, there is the critical circumstance that companies engaged in the development of sustainable inventions would always be exposed to a higher risk of compulsory licensing and would thus be limited in their entrepreneurial freedom of choice. As a result, interest in the development of sustainable inventions may decline, as they would always be exposed to compulsory licensing.

It therefore seems preferable to create incentives to increase the voluntary willingness to license.<sup>170</sup> For example, tax relief could be considered.<sup>171</sup> Cross-sectoral licensing seems particularly promising here.<sup>172</sup> A good example of cross-sector licensing is the licensing of a plant bottle technology by Coca Cola to selected companies with which Coca Cola is not in competition.<sup>173</sup>

Finally, the introduction of an ‘implied licence’ is being discussed, whereby comprehensive rights of use, e.g. for sustainable repair, are impliedly transferred with the sale of the goods in question.<sup>174</sup> Such legal institution has already been tried and tested in other legal systems. However, under German law there is regularly no need for the introduction of such an implied licence. After all, according to the principle of exhaustion, it is possible to repair the item or to maintain its usability as intended. In this respect, the implied licence would not change anything for the legal position of companies such as ‘refurbed’.<sup>175</sup> On the other hand, clear guidelines on the part of case law or legislation as to how to differentiate from inadmissible complete reconstruction would be useful.<sup>176</sup>

<sup>169</sup>E. Eppinger, A. Jain, P. Vimalnath, A. Gurtoo, F. Tietze and R. Hernandez, Sustainability transitions in manufacturing: the role of intellectual property, COSUST 2021(49), p. 120.

<sup>170</sup>See E. Eppinger, A. Jain, P. Vimalnath, A. Gurtoo, F. Tietze and R. Hernandez, Sustainability transitions in manufacturing: the role of intellectual property, COSUST 2021(49), p. 120; C. Heinze, Patentrecht und Klimawandel – eine Skizze, GRUR Newsletter 2020(1), p. 7.

<sup>171</sup>E. Eppinger, A. Jain, P. Vimalnath, A. Gurtoo, F. Tietze and R. Hernandez, Sustainability transitions in manufacturing: the role of intellectual property, COSUST 2021(49), p. 120; C. Heinze, Patentrecht und Klimawandel – eine Skizze, GRUR Newsletter 2020(1), p. 7.

<sup>172</sup>E. Eppinger, A. Jain, P. Vimalnath, A. Gurtoo, F. Tietze and R. Hernandez, Sustainability transitions in manufacturing: the role of intellectual property, COSUST 2021(49), p. 120.

<sup>173</sup>Coca Cola Europe 2019, WHY WE'RE SHARING OUR PLANTBOTTLE TECHNOLOGY WITH THE WORLD, <https://www.coca-cola.eu/news/supporting-environment/why-were-sharing-our-plantbottle-technology-with-the-world>. Accessed 14 July 2022.

<sup>174</sup>K. Haft, G. Baumgärtel, J. Dombrowski, B. Grzimek, B. Joachim and M. Looschelders, Die Erschöpfung von Rechten des Geistigen Eigentums in Fällen des Recyclings oder der Reparatur von Waren (Q 205), GRUR Int. 2008(11), p. 952.

<sup>175</sup>K. Haft, G. Baumgärtel, J. Dombrowski, B. Grzimek, B. Joachim and M. Looschelders, Die Erschöpfung von Rechten des Geistigen Eigentums in Fällen des Recyclings oder der Reparatur von Waren (Q 205), GRUR Int. 2008(11), p. 952.

<sup>176</sup>K. Haft, G. Baumgärtel, J. Dombrowski, B. Grzimek, B. Joachim and M. Looschelders, Die Erschöpfung von Rechten des Geistigen Eigentums in Fällen des Recyclings oder der Reparatur von Waren (Q 205), GRUR Int. 2008(11), p. 952.

#### 15.4.1.2.6 Interim Result

Patent law offers numerous opportunities to promote sustainability. Particularly, the transfer of sustainable technologies through publicly funded research and development cooperation should serve as a starting point. However, the establishment of a fast-track patenting system may also be worth considering, as examples from other countries show. Also, incentives should be set to drive the development of sustainable inventions. These can be cost savings, e.g. through tax savings or reduced application and maintenance fees.

### 15.4.2 Trade Secret Law

The exclusive use of data, which can often be subject to trade secret protection, poses major obstacles to sustainable development. Therefore, one of the biggest challenges in trade secret law is to focus on the use of trade secrets to promote sustainability instead of blocking it.<sup>177</sup> To counteract monopoly structures, properly designed access rights must be established.<sup>178</sup> The creation of new exclusive rights, on the other hand, could be counterproductive.<sup>179</sup>

#### 15.4.2.1 Freedom of Information Rights

Existing freedom of information rights can also play a role. Both under the Freedom of Information Act (IFG),<sup>180</sup> but also under the Environmental Information Act (UIG),<sup>181</sup> which is particularly important from the point of view of sustainability, trade secrets, among other things, can be an obstacle to the disclosure of potentially ecologically relevant data (see Sec. 6 sentence 2 IFG; Sec. 9 (1) No. 3 UIG).<sup>182</sup> The UIG in particular does not provide for absolute protection here, but for a margin of appreciation.<sup>183</sup> In the case of environmental data essential for the preparation of life cycle assessments the EU Commission has proposed a balancing of the interest in the company's secrecy with the interest of the general public in the calculation of the

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<sup>177</sup>P. Gailhofer and C.S. Scherf, Working Paper: Regulierung der Datenökonomie – Ansätze einer ökologischen Positionierung, Öko-Institut e.V. 2019(02), p. 21.

<sup>178</sup>P. Gailhofer and C.S. Scherf, Working Paper: Regulierung der Datenökonomie – Ansätze einer ökologischen Positionierung, Öko-Institut e.V. 2019(02), p. 38.

<sup>179</sup>P. Gailhofer and C.S. Scherf, Working Paper: Regulierung der Datenökonomie – Ansätze einer ökologischen Positionierung, Öko-Institut e.V. 2019(02), pp. 32 ff.

<sup>180</sup>Freedom of Information Act, (Bundesgesetzblatt 2005 I p. 2722), last amended on 9 June 2020 (Bundesgesetzblatt I p. 1328).

<sup>181</sup>Environmental Information Act, (Bundesgesetzblatt 2014 I p.1643), last amended on 25 February 2021 (Bundesgesetzblatt I p. 306).

<sup>182</sup>On this: G. Wiebe, Der Geschäftsgeheimnisschutz im Informationsfreiheitsrecht - Unter besonderer Berücksichtigung des Gesetzes zum Schutz von Geschäftsgeheimnissen, NVwZ 2019(23), p. 1705.

<sup>183</sup>M. Karg, in: Gersdorf and Paal (eds.), Informations- und Medienrecht, 2th ed. 2021, § 9 UIG paras 14 ff.

CO2 footprint.<sup>184</sup> An extension of the application scope of the freedom of information laws, for example to larger corporations that occupy a prominent position in a market with regard to their data stocks, could also be an option to make data that can be used for sustainability generally available. It would be conceivable, for example, to use the data on traffic flows available at corporations such as Alphabet to optimise public transport and to simplify the use of public transport and other resource-saving mobility solutions. This would require a corresponding right of access.<sup>185</sup>

#### 15.4.2.2 Negative List

Furthermore, it is proposed to exempt certain information from protection under the law on secrecy. This could take the form of a negative list, which would exclude data that would reveal dangers to public safety and health from the protection of secrets.<sup>186</sup> Likewise, data that are elementary for the development of sustainable technologies, for example special environmental data, could be excluded from protection. Section 3 (2) GeschGehG already allows the use of a trade secret if this is permitted by law. Thus, there is at least the possibility of creating such exemptions for environmentally relevant data in special laws.

#### 15.4.2.3 Economic Value

Moreover, care should be taken not to interpret the economic value of the information required in Sec. 2 No. 1a GeschGehG too broadly. Potential environmental risks that are evident from data collected by a company can be attributed an economic value insofar as public knowledge can prove damaging to a company's reputation.<sup>187</sup> Nevertheless, the economic value should be understood in the form of commercial exploitability through sharing of the information, since it must not be the purpose of the Trade Secret Act to support companies in environmentally damaging and thus unsustainable behaviour.<sup>188</sup> Ensuring a sustainable understanding of the Trade Secret Act thus remains the task of the courts.<sup>189</sup>

<sup>184</sup>European Commission (2020), Making the most of the EU's innovation potential - Intellectual Property Action Plan for EU recovery and resilience, p. 14, available at <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020DC0760>. Accessed 14 July 2022.

<sup>185</sup>Cf. C. Weihe, Wertstoff Daten: Regulierung und Nachhaltigkeit, Öko-Institut e.V. 2019, available at <https://www.oeko.de/e-paper/digitalisierung-konzepte-fuer-mehr-nachhaltigkeit/artikel/data-a-precious-resource>. Accessed 14 July 2022.

<sup>186</sup>D. Levine, What can the Uniform Trade Secrets Act learn from the Bayh.-Dole Act, Hamline L. Rev. 2011, vol. 33, p. 615-647; S. Sandeen and D. Levine, in: Sarnoff (ed.), Research Handbook on Intellectual Property and Climate Change, Edward Elgar Publishing 2018, p. 357.

<sup>187</sup>S. Sandeen and D. Levine, in: Sarnoff (ed.), Research Handbook on Intellectual Property and Climate Change, Edward Elgar Publishing 2018, p. 358.

<sup>188</sup>M. Hiéramente, in: Fuhlrott and Hieramente (eds.), BeckOK-GeschGehG, 11th ed. 2022, § 2 paras 13 ff.

<sup>189</sup>S. Sandeen and D. Levine, in: Sarnoff (ed.), Research Handbook on Intellectual Property and Climate Change, Edward Elgar Publishing 2018, p. 358.

#### **15.4.2.4 Interim Result**

Trade secrets become an obstacle to innovation, particularly when it comes to companies who avoid making environmentally relevant data public by leaning on the Trade Secret Act. Therefore, focus should be on making such data accessible to the public by exempting it from the protection of secrets, e.g. through the creation of corresponding special laws.

### **15.4.3 Design Law**

As previously elaborated, on the one hand, design law creates incentives for the design of innovative and environmentally friendly approaches. On the other hand, there is the objection that the use of sustainable design is reserved for the designer and is thus not available to third parties without restriction. Consequently, the interests of the right holder in his exclusive right and those of the general public in its exploitation are diametrically opposed. These must therefore be reconciled by design law in such a way that the sustainability of the design is not only promoted selectively, but also as broadly as possible.

#### **15.4.3.1 Exceptions: Essential Interests of Environmental Protection**

One approach to solving the conflicting interests is to restrict the right to the registered design as an exclusive right if essential interests of sustainability conflict with this. As long as the designer can prohibit third parties from using the design without his consent, Sec. 38 (1) DesignG, the design cannot be used on a large scale and therefore cannot effectively promote sustainability. Since this approach is completely at the expense of the designer's interests, the designer would have to be compensated financially accordingly. For this purpose, it would be conceivable to create a regulation, like Sec. 24 PatG, which allows competitors to use the sustainable design. However, it should also be noted at this point that the creation of a possibility for compulsory licensing is always accompanied by the danger of inhibiting innovation in this area, as companies are confronted with the danger of compulsory licensing. Moreover, the creation of a compulsory licence always represents a very strong intervention. Insofar as one argues for the creation of a compulsory licence, this should therefore only come into effect in exceptional cases and be linked to correspondingly strict conditions.

#### **15.4.3.2 Destruction and Recall**

Furthermore, the designer's right to choose between destroying or recalling unlawfully manufactured products or surrendering them in return for appropriate remuneration, Sec. 43 DesignG, could be reduced to the latter. On the one hand, this would result in products already manufactured not being destroyed and, on the other hand, the conflict between the designer's right to his own design and the use of the protected design by third parties would again be regulated on a financial level. Admittedly, the right to destruction is provided for under international law in Art. 46 TRIPS and can thus not be completely eliminated. Though, it is possible to

achieve an appropriate result by strictly applying the principle of proportionality under Sec. 43 (4) DesignG, taking into account environmental protection. According to settled case law, already under the current legal situation, destruction is only permissible if the condition caused by infringement cannot be remedied by other means.<sup>190</sup> Thus, in comparison to the milder option of recall or surrender in return for appropriate remuneration, destruction is an ultima-ratio that can only be considered in exceptional cases with regard to sustainability. In this context, for example, it would be a milder remedy compared to destruction if the design-infringing product can easily be converted to a non-infringing design. Destruction is thus regularly ruled out.<sup>191</sup> For clarification an amendment to the law should be considered. Furthermore, this should serve as an example for international case law.

### 15.4.3.3 Interim Result

Design law could contribute to more sustainable economies, particularly by excluding the right to destruction.

## 15.4.4 Copyright

National copyright law does not play a central role in the further development of the goal of a sustainable society and economy. Thus, the coalition parties of the current German federal government also rely on European proposals for solutions to the issues of sustainability. Nevertheless, the existing provisions on limitations from Sec. 60a ff. UrhG—in the balance between individual incentive and common benefit—offer starting points for a science-friendly and thus more sustainable copyright law.<sup>192</sup>

Furthermore, against the background of the described balance of interests, copyright law contains the potential to focus on sustainability through lucrative remuneration situations for creative and journalistic content. The coalition agreement also provides for the creation of a legal framework in copyright law for the necessary financing issues arising directly from this.<sup>193</sup>

### 15.4.4.1 Official Works

Especially since the idealistic and commercial interests of the state, which uses taxpayers' money to design contributions to sustainability, are very small, the official works in the field of 'green' information should be expanded. This can

<sup>190</sup> See BGH, Judgment of 23 February 2006 - I ZR 27/03, GRUR 2006, 508.

<sup>191</sup> D. Jestaedt and H. Eichmann, in: Eichmann, Jestaedt, Fink and Meiser (eds.), DesignG und GGV, 6th ed. C.H.Beck 2019, § 43 DesignG paras 27 ff.

<sup>192</sup> H. Weiden, Regierungsprogramm Innovationsförderung, GRUR 2022(03), p. 153.

<sup>193</sup> Coalition Agreement of the Federal Government 2021, p. 98, available at [https://www.spd.de/fileadmin/Dokumente/Koalitionsvertrag/Koalitionsvertrag\\_2021-2025.pdf](https://www.spd.de/fileadmin/Dokumente/Koalitionsvertrag/Koalitionsvertrag_2021-2025.pdf). Accessed 14 July 2022.



lead to a wider dissemination of ‘green’ information and thus positively influence the multiplication of ideas.

#### 15.4.4.2 Data

Data is an important part of climate research which cannot be collected by each scientist individually but must be shared with each other. Yet, copyright law does not really have any significant impact in this area. Thus—as seen above—it is rather the law on the protection of secrets that is to be consulted. However, with regard to database works under Sec. 4(2) UrhG, it would be worth considering whether the duration of protection should be reduced. It seems disproportionately long for the type of work and not very effective. Especially in the area of ‘green’ data. However, an international approach must be found for an appropriate exchange of data.

#### 15.4.4.3 Interim Result

Overall, only minor changes need to be made in copyright law regarding a sustainable economy and society. However, this is because the effects are already not particularly large from the outset and thus no significant disadvantages arise.

### 15.4.5 Trademark Law

The role that trademark rights should play on the path to sustainability can be summarised as transparency and increasing acceptance. The purpose of using certain trademarks is already not only exhausted in a proof of origin, but also serves to communicate certain ideals and objectives of the using company as well as outstanding characteristics of the products.<sup>194</sup> At the same time, surveys show that consumers are willing to spend more money on products that have been produced under more sustainable conditions.<sup>195</sup>

These two circumstances can and should be taken advantage of: By using labels that provide reliable information about the sustainability of a company’s business activities or the production conditions of a product, purchasing decisions can be motivated and acceptance for prices that have risen due to sustainability efforts can be achieved.<sup>196</sup> This can mitigate the ‘first-mover-disadvantage’ that generally hinders sustainability.<sup>197</sup> Special attention should be paid to reliability. Particularly, ‘greenwashing’ in which supposedly sustainable products are falsely labelled as

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<sup>194</sup>S. Völker and G. Elskamp, Die neuen Markenfunktionen des EuGH, WRP 2010(01), p. 69.

<sup>195</sup>For example: EU Commission consumer survey from 2021, available at [https://ec.europa.eu/commission/presscorner/detail/de/ip\\_21\\_1104](https://ec.europa.eu/commission/presscorner/detail/de/ip_21_1104). Accessed 14 July 2022.

<sup>196</sup>F. Klein, GREEN IP - A look at how sustainability influences IP and how IP can help in achieving sustainability, Ashurst Update 2020, available at <https://www.ashurst.com/en/news-and-insights/legal-updates/a-look-at-how-sustainability-influences-ip-and-how-ip-can-help-in-achieving-sustainability/>. Accessed 14 July 2022.

<sup>197</sup>Cf. D. Seeliger and K. Gürer, Kartellrecht und Nachhaltigkeit: Neue Regeln für Umweltschutzvereinbarungen von Wettbewerbern?, BB 2021(36), p. 2050.

such, must be avoided at all costs to prevent loss of trust and to enable ‘green’ brands to achieve their goals.<sup>198</sup> Certification marks serve as a suitable instrument for this, as already described above.<sup>199</sup>

## 15.5 Result

Intellectual property rights certainly offer potential for advancing sustainability and setting corresponding incentives.

Though, these rights must not only be thought of nationally, rather, international solutions and cooperation must be found. In this area, there is therefore a need to strengthen technology transfer, for example through publicly funded research and development cooperation, export guarantees or tax reductions.<sup>200</sup>

Nevertheless, to stop climate change, which is threatening the very existence of the planet, changes are needed that strengthen sustainability. To this end, it would be advisable to simplify the process of obtaining a property right for ‘green’ technology and thus make it more attractive. In patent law, we need to think about cost reductions, licence subsidies or accelerated granting procedures. In the interest of sustainability, the protection of secrets could be limited by more extensive freedom of information. In the case of trademark law, it is particularly important to highlight its current value and to further strengthen the appreciation of ‘green’ trademarks in companies. In the case of design law, the right to destruction could be restricted in favour of sustainability. Copyright, on the other hand, plays a subordinate role, allowing it to be used primarily as a supplement. Yet, it is generally true that intellectual property rights should be considered and used as a protective tool in their entirety.

On the other hand, there must be no confusion between intellectual property rights and regulatory law. Both pursue different purposes and especially intellectual property rights should not and must not primarily focus on regulation but must continue to focus on balancing the interests between the holders and society. Above all, the regulation of climate-damaging technologies can be carried out in a more targeted and effective manner within the framework of energy and environmental law.<sup>201</sup>

In conclusion, there is need for action by national and international legislators, but there is no need for the creation of new intellectual property rights or the complete renunciation of the existing system.

<sup>198</sup> E. Rosati, Green with... IP, Alicante News 2022, available at [https://euipo.europa.eu/ohimportal/en/news?p\\_p\\_id=csnews\\_WAR\\_csnewsportlet&p\\_p\\_lifecycle=0&p\\_p\\_state=normal&p\\_p\\_mode=view&p\\_p\\_col\\_id=column-1&p\\_p\\_col\\_count=2&journalId=9135001&journalRelatedId>manual/&TSPD\\_101\\_R0=085d22110bab200025061c713b23263963b8808e44f39ecf94e5857ddb614979eec7024fcb81d4cb085173a7881430000750fb2591b956f13aeff82d3d34c0dfa96271dd65bb39bbc6da08c151d0c446aea6f7063825a349889fe389f276b1e0](https://euipo.europa.eu/ohimportal/en/news?p_p_id=csnews_WAR_csnewsportlet&p_p_lifecycle=0&p_p_state=normal&p_p_mode=view&p_p_col_id=column-1&p_p_col_count=2&journalId=9135001&journalRelatedId>manual/&TSPD_101_R0=085d22110bab200025061c713b23263963b8808e44f39ecf94e5857ddb614979eec7024fcb81d4cb085173a7881430000750fb2591b956f13aeff82d3d34c0dfa96271dd65bb39bbc6da08c151d0c446aea6f7063825a349889fe389f276b1e0). Accessed 14 July 2022.

<sup>199</sup> R. Dissmann and S. Somboonvong, Die Unionsgewährleistungsmarke, GRUR 2016(07), p. 657.

<sup>200</sup> C. Heinze, Patentrecht und Klimawandel – eine Skizze, GRUR Newsletter 2020(1), p. 7.

<sup>201</sup> C. Heinze, Patentrecht und Klimawandel – eine Skizze, GRUR Newsletter 2020(1), p. 6.

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